The *Riddles* of the Exeter Book
Metrical Consistency in a Collection of Shorter Poems

Thesis

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1. Introduction

The present study evaluates similarities and differences in the metrical composition of the Exeter Book *Riddles* and in *Beowulf*. Ever since Eduard Sievers published his seminal work on Old Germanic meter, the majority of scholars of Old English meter have concentrated on refining metrical theory based on the text of *Beowulf*.[1] The theoretical framework of their findings, although far from a consensus except in some basic rules, has been widely regarded as a sort of standard in Old English poetic diction. Metrical deviation from *Beowulf* was and still is considered metrical inferiority.[2] In recent years, metrists have included other works or the entire body of Old English poetry in the corpus of their investigations for various purposes, but always in order to include the range of metrical differences in Old English poetry as a whole and not concentrating on the presumed standard in *Beowulf*.[3] The interest in the analysis of the metrical composition of the *Riddles* lies in their difference from *Beowulf* in genre, style and metrical composition.

There is no need, certainly, to introduce *Beowulf*. The poem is known to everyone interested in Old English studies. But the *Riddles*, although available in many editions and translations, are not as well known as *Beowulf* and deserve a brief presentation.

The corpus of Old English poetry contains one collection of ninety-five riddles, ninety-four in Old English and one in Latin. They are referred to as the Old English *Riddles*, hence abbreviated *Riddles*.[4] The *Riddles* are recorded in the Exeter Book, Exeter Cathedral MS 3501, one of the four miscellanies of Old English poetry.[5] They form three groups in the MS separated by other poems. *Riddles* 1 to 59 make up the first group, *Riddles* 30 (copied a second time) and 60 the second group and *Riddles* 61 to 95 the third group at the very end of the Exeter Book.[6] The last twelve folios are severely damaged through fire and damp, causing a considerable number of *lacunae* in the text of a series of *Riddles* starting at number 63, obliterating rather large portions of the text.[7] The corpus of the 95 *Riddles* consists of 1362 lines in which 228 verses have missing text. The total of verses with enough text to recognize a metrical pattern is therefore reduced to a total of 2496 verses.[8] The individual riddles vary greatly in length, elaborate poems of over one hundred lines to concise little riddles of just a few. The language is the same for all the poems. It is West-Saxon with Anglian elements, the language of the entire Exeter Book.[9]

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[1] Sievers (1893), Pope (1942), Bliss (1958), Creed (1966), (Cable 1974), Obst (1987), Russom (1987a), Kendall (1991), Suzuki (1996), Getty (2002), and others.

[2] Williamson (1977: 7f.) speaks of "freedom from the metrical norms" and "metrically deficient verses" in the *Riddles*.

[3] Among many others Amos (1980), Fulk (1992), Hutcheson (1995), Russom (1998), Momma (1997).

[4] The *Riddles* in the Exeter Book are not numbered. Numbering varies in different editions according to the subdivision of the individual poems. I adopt the numbers assigned by Krapp and Dobbie (1936) for the examples. Rid 90 is in Latin.

[5] Krapp and Dobbie (1936), Chambers (1933).

[6] The MS might have had additional folios at the end as suggested by Conner (1993: 109, 159ff.).

[7] Lacunae occur in the *Riddles* 63, 67, 71, 72, 73, 77, 78, 81, 82, 83, 84, 87, 88, 89, 92, 93, and 94. Chambers (1933: fols. 125a to 130b), Krapp and Dobbie (1936: xivf.), Conner (1993: 236ff.).

[8] See "Calculation of Verses" on page 5.

[9] Förster (1933: 66), Sisam (1953:97ff.), Williamson (1977: 9), Fulk (1992: 406).

The authorship of the *Riddles* is debated.[10] We do not know who composed the *Riddles*. For the sake of simplicity, I will refer to "the *Riddle* poet" without assuming that there was only one.

The analysis of *Beowulf* and the *Riddles* thus compares a long narrative poem of elevated archaic poetic diction, probably the work of one poet at an early period of Old English poetry with a collection of short poems of varying length in a non-heroic narrative style by one or more poets.[11] The individual poems treat a wide variety of subjects, natural phenomena, nature itself, weapons, animals, household items, things used for religious rites, musical instruments and the like. Some of them are composed as double entendres with two solutions, one of them, usually the first to come to mind, has an "obscene" meaning. Single authorship is not established for the *Riddles*. An investigation into comparable and deviant metrical features in two such different poetic works sheds light on a number of questions concerning the metrical composition and its relation to genre, narrative style, the audience, dating, and on the question of metrical quality. If *Beowulf* is the standard in metrical composition in the epic style, is this the only valid meter or is there anything like a standard in other styles? How far are metrical rules and restrictions expressive of metrical quality or an expression of personal poetic style? The choice of the *Riddles* for this comparison may be justified by the similar dating of the two texts. Linguistic evidence seems to assert an early date as well for the *Riddles* as for *Beowulf*.[12] Similarities in the metrical composition will therefore validate to a certain extent rules and restrictions as generally applicable in the meter of this particular time.

The metrical analysis and evaluation of the *Riddles* is based on the theoretical framework *Old English Meter and Linguistic Theory* published by Geoffrey Russom in 1987. The choice was motivated in a first approach by the notion of the word as the phonological pattern for metrical feet resulting in 22 individual verse types, which seemed so much more straightforward and graspable than the almost innumerable types and the musical interpretation in Bliss's and Pope's work.[13] The choice was then decisively influenced by the fact that Russom is a living author and by his unconditional offer of help. He put his scansion of *Beowulf* at my disposal long before it was made public and answered every question with unflagging scholarly support.[14] It goes without saying that my scansion of the *Riddles* required close scrutiny of diverse metrical theories in order to find solutions to a variety of metrical problems and to achieve consistent

[10] Tupper (1910: lxiiiff.) discusses previous scholarly comments on authorship in detail and argues for a single author. Trautmann (1915: 63) claims: "Von nur einem Verfasser kann . . . nicht die Rede sein". Krapp and Dobbie (1936: lxvi) and Pinsker and Ziegler (1985: 8) believe with Trautmann in multiple authorship, although not asserted. (Williamson 1977: 5) holds it "impossible to say much with any certainty concerning the authorship of the *Riddles*". See also Fulk's (1992: 404) discussion of origin.

[11] *Beowulf*: Klaeber (1950: lxiii, ciiff., cviiff.), *Riddles*: Williamson (1977: 5f.).

[12] For *Beowulf*: Cable (1981: 80) as quoted in Fulk (1992: 61), Fulk (1992: 3, §§70.ff.) and for the *Riddles*: Fulk (1992: 404ff.).

[13] Bliss (1958), Pope (Pope 1942).

[14] Russom's scansion of *Beowulf* is available on the website of Brown University (Russom n.y.) Russom's scansion by *Beowulf* uses the electronic text edited by Patricia Bethel and Duncan Macrae-Gibson, supplied by Oxford University Text Archives. The scansion I adopted some time ago may no longer be exactly what Russom presently has on the website, since actual mistakes and typing errors have been corrected all along; and the scansion of individual verses has been adapted to new insights.

scansion without the ambition of adding theoretical explanations of my own.[15] Russom's theoretical framework is briefly sketched in a preliminary chapter to the statistical evaluations. The analysis of the *Riddles* is based on the text as it is printed in Craig Williamson's 1977 edition *The Old English Riddles of the Exeter Book.* The selection was made for very practical reasons: the scanner recognized most of the letters at first try while transferring the text into an Microsoft Access datasheet. In the course of analyzing the individual records in the database, emended verses were scanned according to the edition of Krapp and Dobbie (1936). Their policy of emendation is rather conservative, which seemed to comply with my wish to scan the verses as closely to the MS reading as possible and only to eliminate questionable patterns for metrical considerations[16].

The study is structured as a broad investigation of metrical patterns and individual metrical features to compare fine points of metrical composition in the two texts. The analysis includes evaluations of the statistical distribution for the individual types, the frequencies of the verse patterns and specific variants of underlying linguistic material in each type, their distribution to the a-verse, the application of double alliteration, and the frequency and placement of resolvable sequences. Calculations were also carried out for the foot structures of compound patterns, for verses affected by Kaluza's Laws and for specific restrictions in compounding. The latter two are particularly well observed in *Beowulf* and provide an excellent comparison of subtle handling of the stress assignment to specific syllabic sequences and their syllabic structures.[17]

The method of a statistical evaluation calls for a few remarks. The different size of the corpora investigated necessitates evaluation of percentages of tokens. The calculations are executed in hierarchical sequence from the total of verses in the corpus, to the group of readable verses, the group of types, variants, and down to individual smaller units within the verse. Each group is normalized on the preceding group that includes it and that is assumed to be 100%. A comparison of limited ensembles yields only an approximation to the true value. Type Da2x, for instance, the type that represents the formulaic expression *Bēowulf maðelode*, does not, but would occur in the *Riddles* if the text contained an infinite number of verses that consist of every possible combination of linguistic material in the Old English language. The calculated percentages must therefore include a statistical error.[18] The statistical significance defines the probability with which the true value lies within the range of the calculated error. The evaluations of the present study are based on a conservative error calculation: a result is considered statistically significant if the probability that the true value lies within the range of the error is 95%, which is equal to a significance of 2. The range of the error depends on the size of the ensemble: the smaller the ensemble, the larger the error. Results for a statistical significance between 1 and 2 are still discussed, since they show a tendency toward significance and, if the same tendency is observed in other ensembles, the combined results may still allow for a valid statement.

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[15] Especially the metrical works of Sievers (1885a; 1893), Bliss (1958), Fulk (1992), Hutcheson (1995), and Suzuki (1996) were used extensively.

[16] Hall (1995: 149-183, especially p. 159).

[17] Restrictions on compounding are based on Terasawa (1994).

[18] See "Error Analysis" on page 60.

After the evaluation of all the types and their variants, the results of the evaluated metrical features are compared across types in a second step of the comparison. These discussions test the general validity of differences and similarities, outlining true metrical deviations between the two texts and the validation of metrical rules and restrictions observed in both, i.e. the validation of rules deduced from *Beowulf* as general metrical rules in the Old English meter from the time at which the two texts were composed. The final conclusion summarizes and appraises the outcome of these discussions.

2. Methods of Scansion

A comparison and the statistical evaluations of the various metrical features of the two texts are feasible with the help of the computer. Russom's electronic scansion of *Beowulf* as well as his theoretical approach were given entities and I had to find a way to adjust my own system of scansion and my database to his in order to achieve accurate statistical results. Although I adopt his theory more or less whole-sale, there are a number of points in practical scansion that call for explanation and justification. First, both databases and a few basic points for the statistical evaluation are described. In a second section, Russom's theory is briefly sketched and I address specific problems of scansion corresponding to metrical features that are compared and evaluated in both texts.

2.1. Database and Statistical Evaluation

The full text of the *Riddles* has been scanned from Williamson (1977) and copied into a MS Access for Windows database, each line in one record. Punctuation has been omitted to simplify textual searches. In the course of the study, the text of emended verses has been changed according to the edition of Krapp and Dobbie (1936). Their edition is still widely used as a reference and they comment on previous editions in detail. The data of the MS Access for Windows database were then copied into a Microsoft Excel for Windows worksheet for easier filtering, counting, and isolating of filtered groups similar to Russom's procedure, one verse per record. A number of fields in the MS Access for Windows database are calculated by the program. However, certain fields are entered manually with no calculated cross-reference. Since changes in scansion were made rather frequently during the analysis, mistakes may have entered the records in this way. Although extensive crosschecking was carried out during work with the data, certain inconsistencies are most probably still there.

Some notational errors were detected in Russom's scansion of *Beowulf*. After discussion with him, they were changed in my copy of the MS Excel file. However, a number of verses with doubtful scansion were left as they are in the original, since they were detected so late that the changes would have involved extensive changes in my tabulated calculations. Their numbers are small and should not significantly affect the results. Some of these notational mistakes are explained in a footnote for clarity's sake.

2.1.1. Calculation of Verses

The Exeter Book has suffered severe damage in its last portion, which causes the loss of a number of verses in *Riddles* 63 to 94.[19] Moreover, there are verses in both texts that cannot be scanned as an acceptable type within the system adopted. So, verses with missing text and deviant patterns were excluded from the calculations for both texts. Consequently different totals of verses have been defined for *Beowulf* and for the *Riddles*. Table 1 lists the various totals and describes the labels assigned to each group in the database.

[19] Chambers (1933: fols. 125a to 130b), Krapp and Dobbie (1936: xivf.), Conner (1993: 236ff.).

Table 1: Totals for the Calculation of Verses[20]

Label	**Definition**	**Number**
Grand Total	The number of lines multiplied by 2 for the number of verses; this represents the size of the edited MS text.	Beo 6364 Rid 2724
?Patterns	Verses that contain enough text to reconstruct a possible verse, but cannot be scanned in an acceptable pattern. The number includes all verses with emendations that affect metrical soundness and verses with unusual or deficient types.[21] It does not include lines with missing text or the Latin lines and the verses with runes in the *Riddles*.	Beo 175 Rid 94
NoText	Verses that are excluded owing to missing text (lacunae).	Beo 13 Rid 228
Latin/Runes	10 verses of the Latin *Riddle* 90 and the 18 *Riddle* verses that contain runes.	Rid 28
Readable Verses	The number of verses with an acceptable verse pattern. This excludes verses of uncertain or unusual scansion (labeled ?Patterns), emended verses, and the lacunae (labeled NoText). For the *Riddles*, verses with a pattern not found in *Beowulf* are also excluded. The hypermetrical verses are included; they are considered acceptable patterns according to their received scansion in *Beowulf*.[22]	Beo 6189 Rid 2374

The counts of Table 1 are plotted in Figure 1 to visualize the proportions of the corresponding totals.

The figure shows that the percentages of verses with questionable patterns are not statistically different in the two texts. There is a tendency in the *Riddles* toward more deviant verses, however. The smaller proportion of so-called readable verses (abbreviated in graphs and tables rdbl) in the *Riddles* is caused by the large amount of missing text due to the damage to the last folios of the Exeter Book, by the use of runes, and by the one Latin *Riddle*. The statistical difference does not affect the calculations based on the number of readable verses. Although the missing text increases the difference in size of the two corpora, the error calculation of the percentages includes the discrepancy and assures statistically valid statements in the value of the significance.[23]

Numbers of verses in individual groups, nominal compounds for instance, were filtered from the MS Excel files. The procedure is annotated, if the resulting number includes or excludes specifically mentioned verses. In this case, certain compound forms were included even from emended verses, as long as the emendation did not affect the form itself. Detailed explanations accompany the statistical evaluations.

[20] In tables and examples the *Beowulf* text is abbreviated Beo, the *Riddle* text Rid.

[21] Beo 6a for example: the MS reads *egsode eorl*, the four syllables scan Sxx/S, a pattern that does not exist despite the mandatory four syllables. Dobbie (1953) and Klaeber (1950) emend to *egsode eorlas*, which scans in a regular 3A type Sxx/Sx. Emendation affects the metrical structure of the verse. It is therefore included in the group of unsound verses and labeled as ?Sxx/Sx.

[22] Metrical theories describe them (Bliss 1958: 88ff.; Hutcheson 1995: 317ff.; Pope 1942:99ff.; Russom 1987a: 59ff.; Sievers 1887; Suzuki 1996: 356ff.). See also "Hypermetrical Verses" on page 60.

[23] See "Error Analysis" on page 60.

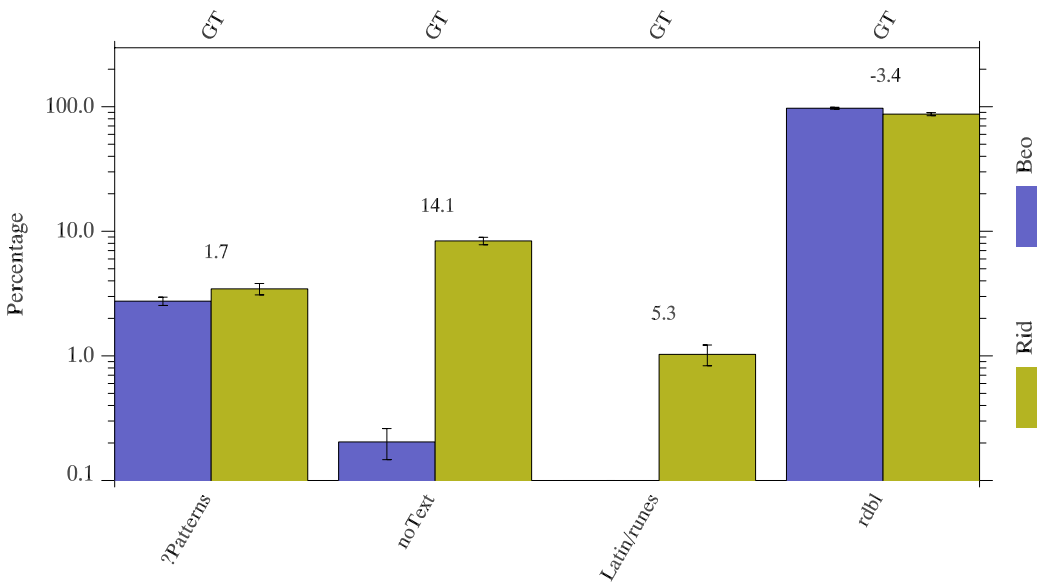


Figure 1: Totals of verses in *Beowulf* and in the *Riddles*. Error bars are defined on page 193, the calculated value for the significance of the statistical deviation between the *Riddles* and *Beowulf* is shown above the error bars.[24]

2.1.2. Choice of Theory

The reason for choosing Russom's theory (1987a) is outlined in the introduction (see page 2). In this section, a first part (2.2.) merely gives a very brief summary of the most important features as Russom defines them in his analytical framework in order to clarify basic issues and the notational system that I adopt. In a second part (2.3.), specific metrical features, which I did not include in the outline of Russom's theory, will be treated in individual chapters explaining my handling of problematic scansion. Although still based on Russom's theory, the discussions include and compare other theoretical approaches in order to substantiate the resulting decisions for my own scansion.

2.2. Russom's Theory

Russom (1987a: 2) follows the widely accepted basic rules that Sievers published between 1885 and 1893 and adds his own theoretical approach based on the notion of each metrical foot corresponding to the phonological pattern of an Old English word. He calls his a "word-foot theory" (Russom 1998: 5). He formulates four general principles concerning the structure of the Old English alliterative long line, namely the foot, the verse, the alliterative pattern, and the line. The four principles are discussed in the following chapters on stress, alliteration, and the notational system.

[24] See Table 19 on page 60.

2.2.1. Stress Assignment

Russom's first principle concerns the foot pattern:

I Foot patterns correspond to native Old English word patterns. The foot patterns most easily perceived are those that correspond to the most common word patterns (Russom 1987a: 2).

Metrical stress as defined by Russom is divided into three basic levels, each representing an abstract metrical position (Russom 1987a: 12f.):

S	**Primary stress**. The abstract metrical position S is derived from a long stressed syllable or from a resolvable sequence, i.e. a short stressed syllable followed by an additional syllable, long or short. So, the adj. *gōd* 'good', the adj. *tilu* 'good' n.sg.fem. or n./a.pl.n., and the masc. noun *metod* 'fate, God' create the same metrical position.[25]
s	**Secondary stress**. The abstract metrical position s is derived from the subordination of stress in Old English compounds, where the root syllable of the second constituent has a reduced stress compared with the stress of the first constituent. The compound *sǣ-mann* occupies the metrical pattern Ss.
x	**No stress**. The abstract metrical position x is derived from an unstressed syllable. All unstressed syllables occupy an x position.

Each Old English word may be represented as a metrical pattern with the three levels of stress. There are nine such patterns representing all the possible word patterns in Old English shown in Table 2 (Russom 1987a: 13):

Table 2: Russom's Nine Allowable Foot Patterns

Foot Pattern	Old English Word	Translation
x	*ond* *ge-*	'and' prefix
S	*gōd* *tilu*	'good' n.sg.fem.
xx	*oþþe* *ofer-*	'or' 'over, above' (prefix)
Sx	*dryhten* *þolode*	'lord' 'he suffered'
Ss	*sǣ-mann* *mægen-wudu*ˋ*power-wood, spear*ˋ	'sea-man, sailor' 'power-wood, spear'
Sxx	*bealdode* *gryrelicu*	'he encouraged' 'terrible' s.sg.fem.
Ssx	*sǣ-mannes* *sigor-ēadig*	'sailors' g.sg. 'blessed with victory'
Sxs	*middan-geard* *inwit-searo*	'middle earth' 'malicious cunning'
Sxxs	*sibbe-ge-driht*	'band of kinsmen'

[25] Russom (1987a: 11f.; 1995: 148).

The second principle describes the verse:

II The verse consists of two feet. Foot patterns corresponding to unusual word patterns add to the complexity of verses in which they appear (Russom 1987a: 2).

Each of the twenty-five foot pairings derived from combinations of the nine foot patterns that actually occur in *Beowulf* is considered a "distinct pairing" and a "unique type" unlike Sievers' various subtypes that are each assigned to one of his five basic types (Russom 1987a: 20, 28). Each of Russom's types is "graded in complexity according to [its] deviation from a single Sx/Sx norm" (Russom 1987a: 31).[26] These types are listed in Table 3 in order of length and weight.

Table 3: Russom's Twenty-Five Unique Types[27]

	Pattern	**Type**[28]	**Example**	**Beo**	**Translation**
1	x/Sxx	C2	*Swā / bealdode*	2177a	'Thus he showed bravery'
2	x/Ssx	C	*be / ȳð-lāfe*	566a	'by the seashore'
3	x/Sxs	B	*Swā / gīomor-mōd*	2267a	'Thus sad in heart'
4	x/Sxxs	B2	*on / fēonda gewealde*	808a	'into the power of demons'
5	xx/Sx	A3	*(Ic)*[29] *hine / cūðe*	372a	'I knew him'
6	xx/Ss	A3b	*(Mē) þone / wæl-rǣs*	2101a	'To me (for) that attack'
7	xx/Sxx	C2	*þenden / rēafode*	2985a	'meanwhile (each) plundered'
8	xx/Ssx	C	*ofer / hron-rāde*	10a	'over the sea'
9	xx/Sxs	B	*hwæðer / collen-ferð*	2785a	'whether the bold one'
10	xx/Sxxs	B2	*ofer / geofenes begang*	362a	'over the expanse of ocean'
11	S/Sxx	Da2	*lāst / scēawedon*	132b	'they examined the track'
12	S/Ssx	Da	*fēond / man-cynnes*	164b	'enemy of mankind'
13	S/Sxs	Db	*flet / innan-weard*	1976b	'the floor inside the hall'
14	S/Sxxs	Db2	*swefan / sibbe-gedriht*	729a	'a band of kinsmen sleeping'
15	Sx/Sx	A1	*furþur / fēran*	254a	'to proceed further'
16	Sx/Ss	A2b	*wīges / weorð-mynd*	65a	'glory in warfare'
17	Sx/Sxx	Da2x	*Bēowulf / maðelode*	405a	'*Beowulf* spoke'
18	Sx/Ssx	Dax	*sīde / sæ-næssas*	223a	'large headlands'
19	Sx/Sxs	Dbx	*enta / ǣr-geweroc*	1679a	'ancient work of the giants'
20	Sx/Sxxs	Db2x	*oncȳð / eorla gehwæm*	1420a	'a grief to every nobleman'
21	Ss/Sx	A2a	*fela-hrōr / fēran*	27a	'going in his prime'
22	Ss/Ss	A2ab	*gūð-rinc / gold wlanc*	1881a	'a warrior decked with gold'
23	Sxx/Sx	3A	*þrǣtedon / þearle*	560a	'they severely harassed'
24	Sxx/Ss	3Ab	*tryddode / tȳr-fæst*	922a	'the glorious one advanced'
25	Ssx/S	E	*sinc-fāge / sel*	167a	'hall shining with treasure'

[26] Russom calls the trochaic foot Sx the standard or normative foot. See "Deviation from the Norm" on page 60.

[27] Russom (1987a: 20-23). The notation of Russom's Sievers' types are adapted for easy reference.

[28] Russom uses theses symbols in his electronic scansion. In *Old English Meter and Linguistic Theory* he adds Sievers' types.

[29] Words in parentheses lie outside the core pattern (Russom 1987a: 33ff.).

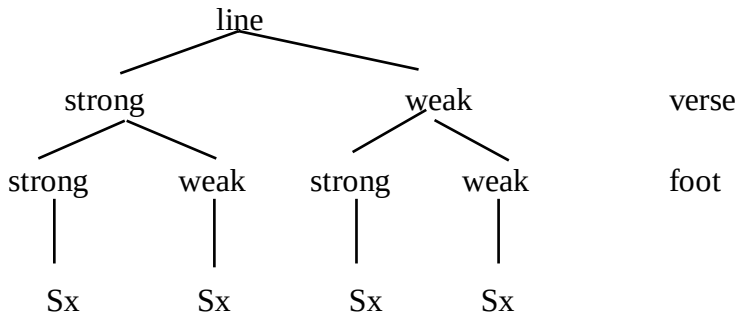
2.2.2. Alliteration

Here Russom's third and fourth general rules are discussed. They are concerned with the relation between the alliterative pattern of the line and the stress pattern of Old English compounds. Russom's third principle:

> III Alliterative patterns correspond to Old English stress patterns. A metrical rule that mimics the Old English compound stress rule determines the location of alliterating syllables (Russom 1987a: 2).

The rules of alliteration are explained in a tree diagram in Figure 2. The line with a standard a-verse and a standard b-verse demonstrates the possible positions for alliterating syllables.[30] The following verse from *Beowulf* serves as an example

Beo 670 *mōdgan mægnes // Metodes hyldo* $S^{A}x/S^{A}x$ // $\underline{S}^{A}x/S$[31]
'the bold man's might [and] God's grace'[32]



mōdgan mægnes Metodes hyldo[33]
'[trusted his] high-spirited strength [and] the Lord's favor'

Figure 2: Tree structure of the standard line.[34] The line is a binary system: two verses per line and two feet per verse. The alliterative pattern shows the alternative with three alliterating syllables, two in the a-verse and one in the b-verse.

Russom's use of a tree diagram is taken from Liberman and Prince (1977) who present "a new theory of stress and linguistic rhythm" based on the argument that "stress subordination" does not depend on the properties of the syllable itself, but is part of a "hierarchical rhythmic structuring" of the entire sentence or phrase. Russom argues that the proposed hierarchy reflects the stress rules in Old English compounds (Russom 1987a: 67ff.).
Russom's fourth principle:

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[30] See footnote 26.
[31] The symbols of the notational system are explained on page 14.
[32] The translations of the examples are mine.
[33] Beo 670.
[34] See footnote 26.

IV The line consists of two adjacent verses with an acceptable alliterative pattern (Russom 1987a: 2, 71).

The tree structure in Figure 2 illustrates the rule.

Rules for metrical compounding are derived from the tree diagram above (Russom 1987a: 73):

Rule 1 The strongest two metrical positions within the line must contain alliterating syllables.

The first S is obviously the strongest of all: it never undergoes subordination, i.e. it is not dominated by any weak node. The next strongest position is the S of the first foot of the b-verse: it is a strong metrical position in the weak verse. It undergoes subordination once. So, the first S position in each verse must alliterate.

Rule 2 A weak constituent of a weak constituent may not contain an alliterating syllable.

The second rule eliminates double alliteration in the b-verse. Both S positions of the second foot of each verse undergo subordination twice, but the second foot of the a-verse is the weak constituent of a strong constituent and this is available as an alliterating position. This means that in the a-verse, double alliteration is possible.

Rule 3 No alliterating syllable may occupy an x position.

The third rule eliminates unstressed metrical positions from alliteration. Only S and s positions may contain alliterating syllables.

These are the three basic rules. Some rules and restrictions concerning alliteration need to be considered. Obligatory double alliteration, for instance, is linked to the word classes in specific positions. There are three classes of words according to Sievers' (1893: §§22-29) classification adopted by Russom, each class with a varying relative prominence that determines its ability to alliterate:

Class A:	nouns, adjectives, infinitives, and participles.
Class B:	adverbs and finite forms of "full verbs" (excluding auxiliaries and the copula).
Class C:	function words such as prepositions, conjunctions, pronouns, finite forms of auxiliaries, and finite forms of the copula.

The greatest probability for alliteration is found in class A words, the least in class C words. This seems to be determined by the relative prominence of the word in the line due to its phrasal stress.

Obligatory double alliteration occurs in heavy verses with more than two stressed syllables if their second foot contains two words of class A (Russom 1987a: 83ff.) i.e. the s position of the second foot is occupied by the root syllable of a class A word (Russom 1987a: 65). The classification with regard to alliteration is not absolute: syntactic conditions can change the probability of alliteration (Russom 1987a: 101). The examples below show obligatory double alliteration[35]

[35] Double alliteration and its distribution is discussed with the individual verse types. See also "Double Alliteration" on page 60 and "Alliteration in Relation to Complexity" on page 60.

Beo 3105a	*bēagas ond brād gold* 'rings and much gold'	$S^Ax/(x)S^As$[36]
Beo 896a	*bær on bearm <u>scipes</u>* 'carried into the ship's interior'	S^A:x/S^A<u>sx</u>

Note that double alliteration is not required if the s position in the second foot is occupied by a class B word instead of a class A word as in the example

Beo 1569b	*secg weorce gefeh* 'the man rejoiced in his work'	S^A/Sx:x-s

and equally not required if it is the first foot of the heavy verse that contains two words of class A as in

Beo 711b	*<u>Godes</u> yrre bær* 'He endured God's wrath'	<u>S</u>^{A}:sx/S

Closely related to the alliterating syllable is the assignment of the three levels of stress in individual patterns. In practical scansion, there are syllables with ambiguous stress, i.e. syllables that may take secondary stress or no stress. Russom (1987a: 35) mentions the medial syllable of the proper name compound *Bēowulfes* or *Bīowulfes* in lines 501b and 2807a that is once scanned as a secondary stress in an E type and once as no stress in a B2 type. Here he argues that the level of stress is decided by the requirement of an acceptable pattern. He has further treated the scansion of syllables with reduced stress in a paper presented at the GLAC-6 conference in Milwaukee in April 2000 (Russom 2001). The issue is of vital importance to my own scansion of the *Riddles* and I will therefore discuss the matter in detail.[37]

2.2.3. Notational System

Russom's notational system is straightforward and easy to read. He scans every syllable in the verse, except syllables containing an epenthetic or a syncopatable vowel.[38] If a verse contains more words than can be fitted into either of the two acceptable foot patterns, Russom classifies the supernumerary unstressed syllables as "extrametrical material", that is, as lying outside the foot (Russom 1987a: 19f., 33, 38) and sets them in parentheses. He allows extrametrical syllables before the first and the second foot. The distinction between syllables in anacrusis and internal extrametrical syllables, i.e. syllables between the two feet, is not crucial in Russom's theory.[39] It is important, though, to differentiate between extrametrical syllables and light feet. A string of more than three unstressed syllables at the beginning of a verse always contains a light foot x or xx. The following examples illustrate his practice (Russom 1987a: 35)

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[36] Russom does not indicate the alliterating syllable (S^A or s^A), the word break (:), the resolved or unresolved resolvable sequence (<u>S</u>, <u>s</u> or <u>Sx</u>, <u>sx</u>) or the prefix (x-) in the notation of his examples in his books. I add them as a visual illustration of the verse structure in my own. See "Extended Notation" on page 14.

[37] See "Lexicalized Compounds" on page 16.

[38] See "Epenthesis" on page 60 and "Syncopation" on page 60. The issue is addressed in the discussion of individual verses in "Metrical Restrictions on Compound Elements" on page 60.

[39] See definition in Appendix B: "Anacrusis" on page 60.

Beo 1248a	*gē at hām gē on herge* 'both at home and in the field'	(xx)Sx/(x)Sx	A1

The verse is scanned as an A1 type with two unstressed syllables in anacrusis and one unstressed syllable before the second foot. The next example represents an A3 type composed of a dissyllabic light foot and a standard trochaic foot with the minimal number of four metrical positions

Beo 941a	*ðē wē ealle* 'which we all'	xx/Sx	A3

The dissyllabic light foot is usually reserved for dissyllabic words unless both syllables are necessary for the required four positions of the verse as in the example above.[40]
A verse like

Beo 503b	*þæt ænig ōðer man* 'that any other man'	(x)xx/Sxs	B

is composed with a disyllabic light foot, and a verse like

Beo 56b	*oþþæt him eft onwōc* 'until to him in turn was born'	(xx)x/Sxs	B

is composed with a monosyllabic light foot.[41]
Consequently, the two syllables preceding the first primary stress in the next example would be scanned as an extrametrical syllable and a monosyllabic light foot in a B2 verse

Beo 501b	*wæs him Bēowulfes sīð* '*Beowulf*'s adventure was to him'	(x)x/Sxxs	B2

In order to distinguish easily between monosyllabic and disyllabic light feet in the examples, I include the extrametrical syllables in parentheses.

Just as the disyllabic light foot is reserved for disyllabic words, the first foot of the extended D types is never filled with a word group. A verse like the example below would be scanned as a Da verse with one internal extrametrical syllable

Beo 356a	*Hwearf þā hrædlīce* '[he] turned then quickly'	S/(x)Ssx	Da

and not as a Dax with the metrical pattern

	Sx/Ssx	Dax

Hypermetrical verses are considered to be embedded normal verses, i.e. they are preceded by an additional foot (Russom 1987a: 59ff.). In Russom's electronic scansion, he marks the major constituent break between the first foot and the embedded normal verse with two slashes // and the foot boundary in the embedded verse with one as in normal verses as in

[40] See Rule II on page 9 and the discussion in "The Light Foot and its Strings of Unstressed Syllables" on page 60.

[41] Russom's distinction of the patterns x/S* and xx/S* in types B and C is not organized according to this practice in his electronic scansion. I have changed his scansion in my database in the two types accordingly, strictly marking the monosyllabic unstressed word before the S position of the second foot as the monosyllabic light foot and the disyllabic unstressed word as the disyllabic light foot.

Beo 1706a	*mægen mid mōdes snyttrum* 'strength with mind's wisdom'	Sx//Sx/Sx	hyp[42]

I adopt his notation, marking a few additional metrical features according to the extended notation described below.

Although Russom analyzes the verses in his electronic scansion including all the metrical features relevant to his theory, he does not use symbols for all of the features in his formulas.[43] In order to read detailed metrical features of a verse without the text, which I consider very useful, I include them in what I call the extended notation.

2.2.4. Extended Notation

My own formulas include symbols for the word boundary, the alliterating syllable, the resolved and unresolved resolvable sequence, the compound that occupies an entire verse, the prefix, and the vowels that are ignored in scansion. Table 4 below lists symbols and examples:

Table 4: Symbols of the Extended Notation

Symbol	**stands for**	**Example**	**Formula**
:	word boundary	*geong in geardum*	S:x/Sx
S^A or s^A	alliterating syllable	*mōdgan mægnes*	S^Ax/S^Ax
S (or s)	resolved resolvable sequence[44]	*Metodes hyldo*[45]	Sx/Sx
Sx or sx	unresolved resolvable sequence	*nīða ofercumen*	Sx/Ssx[46]
x-	prefix	*ne gewit hafað*	x:x-/S:sx
(x)Sx/Sx	extrametrical syllable in anacrusis and internal extrametrical syllable	*in mægþa gehwære*	(x)Sx/(x-)Sx
(x)x/Ssx	extrametrical syllable before the light foot	*Him þæs līffrēa*	(x)x/Ssx
=	whole-verse compound	*foldbūendra*	S^A=/Ssx
winṭer	epenthetic and syncopated vowels ignored in scansion	*eglum āttorsperum*	S^Ax/S^Asx

Russom uses the colon and the equal sign for the same purposes in his electronic style of scansion. I have simply adopted them. For his slash "/" that indicates a prefix, I use a hyphen "-" because the slash is problematic for calculations in my database. The practice of underdotting epenthetic and syncopated vowels is used in Klaeber's 3rd edition of *Beowulf* (1950) and is now generally accepted as an editorial method.

This concludes the very brief summary of Russom's basic theoretical framework and the details of my notation. It goes without saying that many metrical concerns that Russom treated in his publications are not touched upon here. A number of them are

[42] Russom's notation.

[43] Russom, Geoffrey. *Electronic Scansions of Old Germanic Verse in Word-Foot Notation*. Scholarly Technology Group, Brown University. <http://signstg.brown.edu/projects/russom/>

[44] The resolved or the unresolved resolvable sequence is hence abbreviated to resolved or unresolved sequence.

[45] Text underscored indicates a resolvable sequence.

[46] The resolved resolvable sequence *ofer* /S is not indicated for clarity's sake.

discussed in detail in the following chapters where I outline my practice of scansion with regard to specific problems. Others are treated in the discussions of individual verses according to their implications for the problem in question.

The following section turns to stress assignment in compound forms generally and to the particular difficulty of what Russom terms syllables with ambiguous or indeterminate stress. The question has been discussed by metrists ever since the publication of metrical analyses and opinions differ to date. Various views are compared in order to clarify the scansion adopted for the *Riddles.*

2.3. Scansion of Compound Forms

Before the discussion of stress assignment to compound and affix forms can begin, a definition of the various categories treated here will clarify the problems at issue. There are basically two groups of compounds that may be distinguished with regard to the assignment of metrical stress:

ordinary compounds

and

lexicalized compounds.[47]

The first category also includes poetic compounds. They are treated under the same heading, since their scansion is based on the same prerequisites. The discussion of lexicalized compounds includes the treatment of compound proper names; their metrical behavior is closely related. They do not play a role in the evaluation of the *Riddle* verses, but discussion of their metrical behavior is essential in several authors and their treatment nicely demonstrates the varying stress assignment in *Beowulf*.

2.3.1. Ordinary and Poetic Compounds

Ordinary and poetic compounds consist of two constituents with full semantic weight.[48] Both elements can function as independent words (Russom 1987a: 9). Compounds are labeled poetic, not only if they occur in poetic texts exclusively, but also if they have a specific semantic structure. Russom (1987a: 93) defines them as compound forms in which "the first constituent, or *combinative,* stands in a pleonastic relation to the second constituent, or *base,* without restricting its meaning". He follows Krahe and Meid (1969: §30) who define the poetic compound as follows: "Auch die besonders in der ae. Dichtung häufigen **tautologischen** Komposita vom Typ *frēa-drihten,* bei denen zwei synonyme Begriffe (hier "Herr") zur Einheit verbunden erscheinen, sind nicht zu den Dvandvas zu rechnen, da es sich bei ihnen . . . nicht um Verbindung zweier verschiedener, sondern um pleonastische Charakterisierung eines einzelnen Begriffes handelt."[49]

Ordinary and poetic compounds are treated identically in the assignment of stress. Metrists generally agree that they bear secondary stress on the root syllable of the second

[47] Russom (1987a: 9) uses the term "lexicalization" for the loss of the full semantic content of a compound constituent. I adopt this usage and call compounds lexicalized if their second constituent has reduced semantic content. In "Lexicalized Compounds" on page 16, the difficulty of categorization of lexicalized forms is further addressed.

[48] Bliss (1958: 25), Campbell (1983: §87), Fulk (1992: 169), and Russom (1987a: 9). See Russom (1987a: 69f.) for the metrical compounding of triple compounds.

[49] Dvandva is defined by Krahe and Meid (1969: §26): ai. dvandva- n. "Paar".

constituent.[50] They occupy one of the four foot patterns with primary stress on the first and secondary stress on the second element.

Table 5: Compound Foot Patterns[51]

Ss	*sǣ-man*	'sea-man, sailor'
Ssx	*sǣ-mannes*	'sailor's' g. sg.
Sxs	*middan-geard*	'middle earth'
Sxxs	*sibbe-ge-driht*	'band of kinsmen

The MS readings of such forms are at times ambiguous. Scribes usually write them in two words, but occasionally as one. The MS reading in the *Riddle* verse 27.10a, for example, shows clearly two words for *mægen þisan*.[52] Two other compound forms with *mægen* as a first element occur in the *Riddles.*[53] A large number of other compound forms, in the *Riddles* as well as in *Beowulf*, are written as two words. All of these forms are considered compounds by editors. They are here scanned as true compounds and not as word groups.[54] Their scansion is straightforward, since their second constituent carries secondary stress on the root syllable by accepted definition of stress rules. Stress assignment in lexicalized compound forms, on the other hand, may be ambiguous. The next section deals with these difficulties and describes the necessary choices involved in individual ambiguous cases.

2.3.2. Lexicalized Compounds

Ordinary compounds enter the language as two words with stress subordination of the second constituent as a marker of the compound form (Russom 1987a: 67). As mentioned above,[55] loss of the original semantic content of the second element leads to the reduction of the secondary stress on the second element, shifting the phonological pattern of the compound closer to the pattern of a simplex word. Such a compound form is here called lexicalized. As a rule, a compound form is considered lexicalized at two discernible levels: first, if the second element has lost its original full semantic content and has changed into a semi-lexical morpheme, where the original root is still recognizable; and second, if it has become a suffix where the original semantic content is obscured (Fulk 1992: 189; Kastovsky 1992: 356f.). The first category is discussed here.

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[50] Sievers (1893: §78,1.), Bliss (1958: §32), Campbell (1983: §87), Russom (1987a: 12), Hutcheson (1995: 26ff.), Suzuki (1996: ch. 3.8).

[51] The Ssx foot is the normative compound pattern. See "Deviation from the Norm" on page 60 and Figure 81 on page 60.

[52] See Chambers (1933: fols. 107b, 109b) for the MS readings of the compounds in two words in Rid 27.10a: *mægen þisan,* 37.3a: *mægen rofa,* and 87.3a: *megen* (new line) *strong*.

[53] The compound forms with *mægen* are discussed in "Metrical Restrictions on Compound Elements" on page 60.

[54] The spelling of the examples for the *Riddles* are taken from Williamson's (1977) glossary: Rid 27.10a *mægenþisan*, 37.3a *mægenrōf*; 87.3a *mægenstrong* ; and for *Beowulf* from Klaeber's (1950) glossary: *mægen-āgende, mægen-byrþen(n), mægen-cræft, mægen -ellen, mægen-fultum, mægen-rǣs, mægen-strengo, mægen -wudu*. Doubtful cases are discussed with the individual verses, where the question of compound form or syntactic phrase is important.

[55] See footnote 47.

The stress assignment to lexicalized root elements is ambiguous in the same way as in compound proper names. The metrical value of *Bēowulf* or *Bīowulf* in the following examples has two different stress values on its second constituent, either secondary stress or no stress in order to have an acceptable verse pattern

Beo1971a	*sīð Bēowulfes* '*Beowulf*'s coming'	S^{A}/Ssx^{A}	Da
Beo501b	*wæs him Bēowulfes sīð* 'was [to] him *Beowulf*'s journey'	$x:x/S^{A}xx:s$	B2

The following discussion treats second constituents of compound proper names as lexicalized elements, i.e. they have a reduced semantic value, the crucial explanation for reduction of stress.

The varying assignment of metrical stress has already been observed by Sievers (1893: §78). He speaks of "schweren" and of "schwächeren nebentönen" and mentions the possibility of scanning the latter as "betont" or ignoring the stress as "unbetont".

Campbell's (1983: §88) view does not entirely concur with that of Sievers. He lists second elements that are still clearly related to a root and an underlying semantic content, here defined as lexicalized compound elements

-dōm, -cund, -fæst, -feald, -full, -hād, -lāc, -lēas, -līc, -sum, -weard, -wist

and claims that if they are monosyllabic, they have no stress, resembling the unstressed final syllable of a simplex:

frēodōm 'freedom'	Sx
frēolīc 'free(born), glorious'	Sx

If such lexicalized second elements are inflected, and are therefore followed by an additional syllable or if they are disyllabic themselves, such as

-bǣre,- rǣden, -scipe, -wende

Campbell attributes "half stress" to their medial syllable.[56] He includes second elements of compound proper names under this rule.

So, in Campbell's view, lexicalized compound forms scan with "half stress" only if the second constituent is disyllabic itself or has an inflectional suffix. If it is monosyllabic, it bears what he calls "low stress". Here, he deviates from Sievers (1893: §78. 2. and 6.), who does assign secondary stress ("betonte schwächere nebentöne") to monosyllabic constituents in certain surroundings.

[56] Campbell (1983: §88) uses the term "half stress" for both levels of stress, the secondary stress assigned to the root syllable of second constituents in compounds with full as well as reduced semantic content.

Bliss (1958: §§30-33) handles the problem in a controversial manner. He coined the term "tertiary stress" for secondary stress that may be ignored as opposed to secondary stress that is never ignored.[57] In Bliss' scansion tertiary stress is not marked, however. Although he recognizes the different stress levels on the second constituent in compound forms, he does not systematically mark them in his notation. The following examples illustrate his scansion

Beo 64a	*Đā wæs Hrōþgāre* 'Then was [to] Hrothgar'	x x ´– x x	d1b
Beo 152a	*hwīle wið Hrōþgār* 'a time against Hrothgar'	´– x | x ´– x	1A*1a
Beo 1587a	*aldorlēasne* 'lifeless'	´– x | `– x	2A1

In the compound proper name he scans both positions on the inflected as well as the uninflected lexicalized root syllable as unstressed, quite contrary to his definition that "[s]econdary stress . . . is found in compounds whose meaning can be deduced from the meaning of its elements, both of which also occur as independent words" (Bliss 1958: §32). He obviously does not regard the second constituent of the name *Hrōþgār* as an independent word and assigns lack of stress to *-gār* or to the inflected form *-gāre*. He specifically assigns tertiary stress to second elements of proper names (Bliss 1958: §32.4). The second element *-lēas*, on the other hand, seems to qualify for stress, despite the fact that it has been lexicalized to a certain extent and no longer functions as a fully lexical morpheme in this compound form.[58]

Neither Campbell nor Bliss offer fully satisfactory guidelines for the scansion of such forms. The problem arises from the lacking marker for tertiary stress and is basically a notational difficulty in a system with three levels of stress. The question remains, how to achieve a consistent method of scansion that reflects the metrical values more or less accurately and results in an acceptable verse pattern of the respective system. This is by no means easy to achieve. The crux lies with verses in which both assignments result in an acceptable type and with the question of which type should be preferred. Is, for example, the following verse an A1 or an A2 type?

Beo 152a	*hwīle wið Hrōþgār* 'a time against Hrothgar'	S^Ax/(x)S^Ax	A1
or			
		S^Ax/(x)S^As	A2b

Russom (2001) proposes an "alternative account" to the traditional view of Sievers and Campbell. He demonstrates on statistical grounds that Campbell's rule for unstressed

[57] Bliss's (1958: 25) definition: "Since, however, the phonological evidence for some degree of stress on derivative and formative syllables is by no means negligible, it will be convenient to refer to the secondary stress which cannot be ignored as 'secondary' stress, and to the secondary stress which can be ignored as 'tertiary' stress, without prejudice to the possibility that 'tertiary' stress may in fact prove to be equivalent to lack of stress."

[58] Sauer (1985: 282).

final syllables and stressed medial syllables in proper name compounds shows about the same frequency for cases confirming the rule as for the exceptions, which Campbell explains by analogy (Russom 2001: 55). Russom argues for evidence of "indeterminate stress" according to actual occurrences in a part of the corpus of Old English poetry[59] and proposes three possible hypotheses:

1) Three metrical positions, the primary stress, the secondary stress and the unstressed position (thesis), i.e. essentially Sievers' proposal, although with the claim that each unstressed position is enumerated, in contrast to Sievers' assumption that adjacent unstressed syllables are included in one thesis ("senkung").[60]

2) There are two possible realizations for root constituents with reduced semantic force, word-medially and word-finally: the unstressed realization on the weak position and the stressed realization on the stressed position.

3) Metrical interpretation varies, either according to the underlying secondary stress before advanced lexicalization or the synchronic systematic reduction to zero stress after lexicalization.[61] This handling of varying stress resembles the Old English poetic practice with regard to contract forms or epenthetic vowels.[62]

In practical scansion Russom assumes that root syllables with reduced semantic force in proper name compounds and lexicalized compounds have "indeterminate" stress. He scans them with secondary stress in both positions, final and medial, if an acceptable pattern results. He disregards implications of complexity and marks the significant stress of the syllable instead of lack of stress. The examples below show acceptable patterns with secondary stress and no stress in Russom's scansion

Beo 152a	*hwīle wið Hrōþgār* 'a time against Hrothgar'	$S^Ax/(x)S^As$	A2b
Beo 64a	*Đā wæs Hrōþgāre* 'Then was Hrothgar'	$x:x/S^Asx$	Da
Beo 501b	*wæs him Bēowulfes sīð* '*Beowulf*'s adventure was to him'	$x:x/S^Axx:s$	B2

The third example is scanned with no stress. A pattern like xx/Ssxs is not acceptable.[63]

The fourth example is again scanned with secondary stress on the second element -wulf to mark the significant stress

Beo 2389b	*Bīowulf healdan*	S^As/Sx	A2a

and the fifth example must be scanned with no stress on -*wulf*, since there is no type of the form Ss/Sxx in Russom's system

[59] Examples for roots with reduced semantic prominence are taken from *Beowulf*, the only long poem with a statistically reasonable number of Germanic proper names, since Russom includes proper name compounds and bases his arguments mainly on them. For suffixes he includes a series of other Old English poems (Russom 2001: 56, f.n. 18).

[60] Russom (2001: 43), Sievers (1893: §10 and §15.2.).

[61] Russom (1987a: 9f.).

[62] See "Epenthesis" on page 60.

[63] See Russom (1987a: 27, 35) for the discussions of the unacceptable type E with anacrusis (xx)Ssx/S.

2425a	*Bīowulf maþelade* '*Beowulf* spoke'	$S^{A}x/\underline{S}xx$	Da2x

The Da2x type is indeed reserved for exactly that particular formulaic verse consisting of an uninflected compound proper name and the verb form *maðelade* or *maðelode*.[64] The reason for the unstressed second element in *Beowulf* is explained by restrictions on reversed half-line patterns. In the outline of his theory, Russom (1987a: 31) claims "that there are no reversed half-line patterns such as . . . , or Ss/Sxx" for reasons of complexity. If we consider Russom's (1987a: 28) matrix of attested patterns, the pattern Ss/Sxx would indeed deviate from the norm in the three crucial parameters, weight, length, and position. It exceeds maximum weight and length and does not conform to the normal position of the compound in the first foot. Although the compound "feet Ssx and Ss need not occupy the normal position . . . , but may also appear in the first foot of *reversed* half-lines" they are restricted in rule (15) (b) to the normative length of four positions (Russom 1987a: 29-31). If Ss/Sxx would be accepted as a valid pattern of the system, Rule (15) would only apply to the Ssx foot, allowing the Ss foot a special treatment, so to speak, and eliminating the less complex pattern Sx/Sxx.[65] Within Russom's system, the pattern Ss/Sxx cannot be considered metrical.[66]

In the same vein Russom marks secondary stress on lexicalized second root elements other than in compound proper names wherever an acceptable pattern results, reserving the unstressed position for unambiguous cases only, where no acceptable pattern results with a stressed position. The following examples show Russom's scansion

Beo 637a	*eorlīc ellen* 'noble courage'	$S^{A}s/S^{A}x$	A2a[67]
Beo 1287a	*andweard <u>scireð</u>* 'cleaves through'	$S^{A}s/\underline{Sx}$	A2a
Beo 690a	*snellīc sǣrinc*[68] 'brave sea warriors'	$S^{A}s/S^{A}s$	A2ab
Beo 585a	*swā dēorlīce* 'such bold'	$x/S^{A}sx$	Da

Another difficulty in stress assignment occurs for the second category of lexicalized compound forms, where lexicalization has further developed and has turned the semi-lexical morpheme into an affix with obscured semantic content. Russom (2001: 56f.) calls them "heavy" and "light affixes" as opposed to the first category of "root affixes" treated above. Heavy affixes have two final consonants, always constituting a long

[64] See "Type Da2x" on page 60.

[65] See the discussion of Russom's notion of complexity in Appendix B "Deviation from the Norm" on page 60.

[66] Neither does Bliss accept it as metrical in his system. He scans those verses as 2A1a(ii) with no stress on the second constituent of the compound in accordance with Russom's scansion.

[67] His scansion in this example is discussed with the very low-frequency type A2a with an unresolved second foot. See "Suspended Resolution in Type A2a" on page 47.

[68] Etymological length is marked throughout on the semi-lexical morpheme *līc* disregarding the degree of stress assigned to the syllable in the individual verse with the exception of *-licu,* on an unstressed position, where the preservation of the final -u indicates a short -i-. Fulk (1992: §221), Campbell (1983: §356, 642).

syllable with an additional inflectional ending. The light affixes have a short vowel and only one consonant. In inflected form, they have a short medial syllable. The following sections treat the scansion of these forms.

2.3.3. Heavy Affixes

Campbell (1983: §89) claims, and he follows Sievers' (1893: §78.4)[69] view here, that what he calls "heavy derivative suffixes" acquire secondary stress if they follow a long syllable or a resolvable sequence and are themselves followed by an unstressed syllable. He lists the following endings:

-els, -en, -end, -ere, -erne, -estre, -ig[70]*, -ing, -ung, -isc, -ness, -oþ*

He includes in this category endings of participles and of the inflected infinitive *-ende, -enne,* the endings of the superlative *-est, -ost,* and any long final syllable. Such long syllables would scan with secondary stress according to Campbell. Bliss does not assign secondary stress to these syllables. He scans heavy affixes in medial position as unstressed (Bliss 1958: §32.7). The following examples show Campbell's scansion in my notation and Bliss' in his own

Beo 2292b	*sē ðe waldendes*	x:x/S^Asx	C
	'when the Ruler's'	x x ´– x x	d1b
Beo 2985b	*rinc ōþerne*	S^A/Ssx	Da
	'[one] warrior [the] other'	´–	´– x x	1D1

The uninflected forms, that is heavy affixes in final position, are scanned with no stress by Campbell as well as by Bliss

Beo 2741b	*waldend fira*	S^Ax/Sx	A1
	'Ruler of men'	´– x	´– x	2A1a
Beo 1086a	*þæt hīe him ōðer flet*	x:x:x/S^Ax:s	
	'another floor'	x x x ´– x	´–	3B1c

Russom (2001: 56f.) more or less follows Campbell in the scansion of medial syllables. He states that heavy derivational affixes followed by any kind of inflectional ending bear secondary stress. Light derivational affixes must be followed by an inflectional ending that begins with a consonant in order to carry secondary stress. The words *waldend* and *ōðer* with the inflectional ending *-es* may serve as examples. The word form *waldendes* contains three long syllables by position, i.e. each is closed by a consonant: *wal-den-des*. The second consonant *-d -* of the medial syllable forms the onset of the third syllable. The word form *ōðeres*[71] on the other hand contains two long syllables and a short medial syllable: *ō-ðe-res* according to the rule that a single intervocalic consonant belongs to the

[69] Sievers calls such syllables "lange mittelsilben nach langer wurzelsilbe."

[70] Campbell (1983: §89, f.n. 3) includes forms of former *-īg* to carry half-stress. He also includes medial *-i-* and *-od-* of weak verbs of the second class. This issue is addressed in the discussion of short medials in "Light Affixes" on page 22.

[71] See Sievers (1885b: 459ff.; 1893:§76) for a discussion of syncopation of the short medial syllable after a long stressed root syllable.

following rather than to the preceding syllable within the word.[72] So, Russom assigns secondary stress to all long medial syllables formed by heavy and light affixes, even to non-derivational syllables, such as *-er* in *ōðerne* as in the example in Beo 2985b.

For derivational affixes in final position, however, Russom disproves Campbell's rule on statistical grounds, just as he does for the lexicalized compound roots discussed above; and he does indeed assign stress to the verse-final heavy derivational affix in verses like

Beo 1112b	*æðeling manig* 'hero many'	$\underline{S}^{A}s/\underline{Sx}$	A2a

This scansion follows Sievers (1885a: 230f.; 1893: §78.6). Russom (2001: 43) argues for this particular verse by reference to the very low frequency of A1 verses with an unresolved primary position in the second foot.[73] A majority of them have a compound in the first foot.[74]

Bliss also assigns secondary stress, following Sievers' rule that the first short syllable of the second foot may only be stressed if it is preceded by a long stressed syllable (Bliss 1958: §31). The scansion of such forms seems rather straightforward. However, the choice of stress level is by no means clear in every case. The problem of scansion is further addressed in the discussion of the corresponding verse types.

2.3.4. Light Affixes

Stress assignment to light affixes in medial position is especially problematic in Sievers' theory (1893: §78.5). He must assign secondary stress to a short medial syllable that is preceded by a long root syllable in order to avoid violation of his assumption that a weak position may contain a string of unstressed syllables and still count as one metrical position (Sievers 1893: §10 and §15.2.). Campbell (1983: §89) follows Sievers here as well and includes the short medial syllables *-i-* and *-od-* of the weak verbs of class 2. With the inclusion of the medial syllables *-i-* and *-od-* he accepts verses that are too short if a string of unstressed syllables counts only as one thesis like

Beo 132b	*lāst scēawedon* 'found tracks'	´ – ´ – x	(Sievers' notation)[75]
Beo 451b	*leng sorgian* 'longer worry'	´ – ´ – x	

These are verses that occupy only three metrical positions, if scanned according to Sievers, in stark contrast to the generally accepted minimum of four positions per verse. It is not clear why Campbell includes these medial syllables, since he also mentions the very light stress on short syllables and acknowledges that it was often neglected (Campbell 1983: §92). The rules for assignment of "half-stress", as he calls both of Sievers' (1893: §78) distinct levels of secondary stress, demonstrate that he does not assign half-stress to short medial syllables of weak verbs of class 2 in general. His

[72] See Hogg (1992: 95f.) for a concise discussion of syllable structure in OE.

[73] See "Suspended Resolution in Type A1" on page 35.

[74] See "Suspended Resolution in Type A2a" on page 47.

[75] See Sievers' (1885a: 254f.) discussion of Beo 132b and similar verses.

comments are not clear and a definite stress assignment cannot be deduced from his outline.

Bliss scans both verses as 1D1; in his scansion this is ´– | ´– x x. Within this type he also includes verses with tertiary stress on the long derivative syllable and the short root in proper names like

Beo 30b	*wine Scyldinga* '[the] friend of the Scyldings'	´– | ´– x x	1D1
Beo 57a	*hēah Healfdene* '[the] tall Healfdene'	´– | ´– x x	1D1

Obviously, this approach is at variance with Russom who does mark the significant stress in the last two examples. He scans as follows

Beo 30b	*wine Scyldinga*	$\underline{S}^{A}$/Ssx	Da
Beo 57a	*hēah Healfdene*	$S^{A}/S^{A}\underline{sx}$	Da

Like Bliss, Russom (2001: 56f.) never assigns stress to a medial light affix if it is short. His rule is simple: any medial syllable may bear stress, but only if it is long.

To sum up, I come to the conclusion that Russom's approach to the problem of stress assignment in lexicalized compounds seems to allow for a plausible treatment of the matter. He assumes varying stress, i.e. indeterminate stress, on the three categories of affixes, namely root, heavy derivational, and light derivational affixes. Within his notational system with three stress levels, he marks significant stress (determinate stress in his terms) with secondary stress s and lack of stress x. Significant stress is marked as secondary stress where an acceptable pattern results. All final root affixes like *-dōm, -līc, -sum* and others occupy a secondary position. Heavy derivational affixes, such as *-ing, -end* and others in final position are normally scanned as unstressed positions unless specific metrical requirements call for a secondary stress, as in an A2a type with an unresolved second foot.[76]

Light derivational affixes in final position are not stressed. They always occupy an x position. There are no unambiguous examples in *Beowulf* where such an affix must bear stress. Inflectional endings are always unstressed.

The above discussion does not treat the group of pronominal compounds, such as forms with *–hwylc, –hwā* for example. Russom scans them like lexicalized compound forms with secondary stress on the second constituent, if an acceptable pattern results.

This hierarchy makes sense also in view of Fulk's (1992: §§186ff.) critique of Bliss' scansion that does not distinguish between tertiary stress and no stress and Fulk's discussion of tertiary stress. The question remains on the one hand, whether it is desirable to abandon the principle of choosing the less complex pattern in favor of marking significant stress in a system where complexity plays a crucial part in the justification of patterns.[77] On the other hand, there is no straightforward answer to the notoriously difficult matter of preferred scansion. In any case, the hierarchical approach only represents a solution to a notational problem and it does reflect the degree of semantic

[76] See "Suspended Resolution in Type A2a" on page 47.

[77] See Russom (1987a: 28ff.) and my discussion of the issue in Appendix B "Deviation from the Norm" on page 60.

force in these syllables, a strong argument in itself. I follow Russom's practice in this respect, just as I take his theoretical approach as the guideline for my own scansion of the *Riddles*. The decision favors an accurate statistical evaluation of verse types, since I use Russom's scansion of *Beowulf*. The problem of stress assignment in ambiguous cases is discussed further in the comparison of compound forms, where the pertinent examples are presented individually.[78]

[78] See "Distribution of Lexicalized Compounds with Indeterminate Stress" on page 60.

3. Statistical Evaluation

This chapter contains the statistical analysis of each verse type with its specific metrical features. The results of individual features are then compared in all the types and discussed with emphasis on generally deviating metrical features that reflect on the quality of metrical composition in the *Riddles* measured against compositional practice in *Beowulf*. So, in a first section, the five basic Sievers types are analyzed. The following sections deal with 22 individual types of Russom's system, including the hypermetrical verses.[79] Subsections in each type deal with the linguistic material, with the distribution to the a-verse, with double alliteration, and with resolution. A brief summary concludes the discussion of the types. After the analysis of the individual types, metrical features across all types are discussed. They evaluate the similarity and disparity of the results for various features. The subsections treat the distribution of extrametrical syllables, the preferred placement of certain types in the a-verse, alliteration with its requirements and restrictions, and the implementation of resolution.

3.1. Analysis of Verse Types

In the sections below, each type is discussed in view of its statistical distribution in the two texts. The figures show the plotted percentages of the features in question. The error bars indicate the statistical deviation: where they overlap there is no statistical significance and the results are considered to be equal. The percentages were calculated in the MS Excel database and for reference to the exact values of the numbers and the statistical significance, they are listed in an individual table to each graph in Appendix C. The calculation of the statistical error is explained on page 193. Individual metrical rules and restrictions are treated in detail where they show the statistical significance of 2. Groups that show a significant statistical deviation between 1 and 2 are also discussed, since deviations of that order in several similar groups might still yield a certain tendency toward a general result or the support of a hypothesis. So, values of significance between 1 and 2 will be compared and interpreted with careful consideration of the reduced significance that indicates at best a tendency toward statistical significance. The graphs show the percentages in linear or logarithmic array in order to facilitate the reading of the percentage values of each column. A linear array was chosen if the percentage value of the column for the smallest percentage within one graph was clearly discernable. The logarithmic array in turn served in graphs with very small percentages, where the percentage value could not be read with any accuracy from the height of the column. In the graphs, zero results are not plotted. For example, a particular variant occurs in a type but not in the a-verse in either text, the graph for the distribution to the a-verse does not contain this particular variant.

Each type is first discussed in view of its underlying linguistic material. The metrical positions of the type may directly represent the syntactic constituency of the language material. I refer to instances of this direct matching as core verses. Next to the core verse, a verse type may represent variant linguistic material. It may also accommodate

[79] Russom's types B, B2, C, and C2 with the monosyllabic and the disyllabic light foot are treated under the same heading. See also Table 6 on page 27.

additional syllables, either in anacrusis or between the two feet.[80] The type may also be composed with a word group instead of a simplex or a compound on one or both feet and it may be filled with one single compound form, a so-called whole-verse compound. In a second step, the distribution to the a-verse of individual variants of the type is treated. Verse types are not indiscriminately distributed to the a- and the b-verse in *Beowulf*. Their distribution is subject to rules and restrictions that must be considered as part of the metrical system. The comparison therefore adds the results of one more metrical feature in the overall analysis of the metrical composition of the *Riddle* text. A further crucial metrical feature is double alliteration. The results of various combinations of linguistic material are compared with regard to preference for double alliteration.

3.1.1. Sievers Five Basic Types

A first rough evaluation of the distribution of Sievers' five basic types will allow for a first approach to an assessment of the metrical quality of the *Riddles* compared with the findings in *Beowulf*. The discussion of the results for the types is based on the numbers of readable verses.[81]

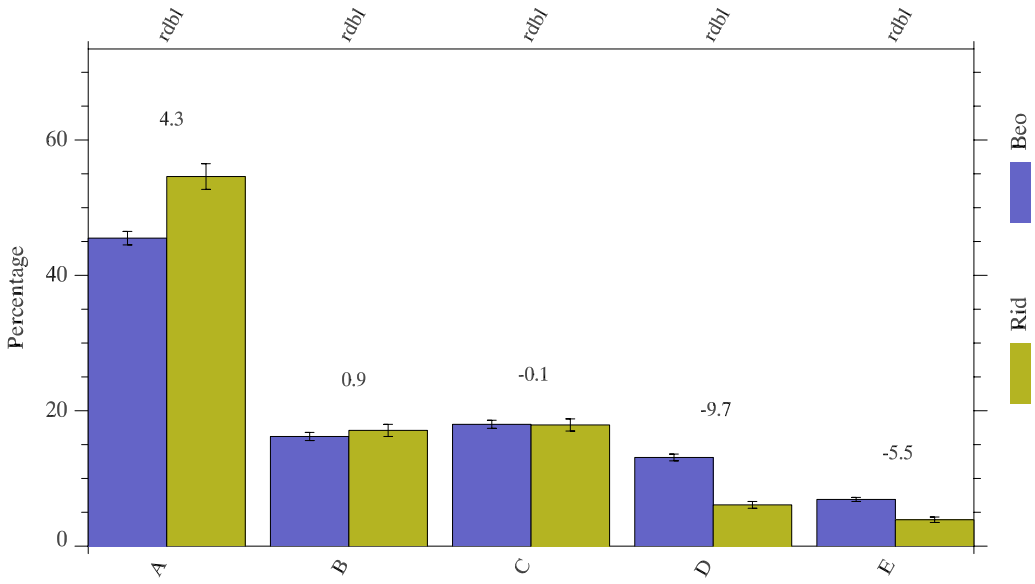

Figure 3: Percentages of Sievers' five basic types. Normalization labeled in the top row. Percentages in linear array.[82]

Figure 3 gives the percentages of the distribution of Sievers' five basic types in both texts. The results basically tally with what Sievers evaluated for *Beowulf*, namely that A represents the most frequent type and E the least frequent one (Sievers 1885a: 291, 295, 299, 307, and 311).[83] At a glance it is obvious that the *Riddles* have a larger share of the

[80] See "Notational System" on page 12 and "Anacrusis" on page 60.

[81] See Figure 1 on page 7 and "Calculation of Verses" on page 5.

[82] See also Table 20 on page 60 for the detailed calculations.

[83] Sievers' numbers are not comparable with Russom's results; their types are not identical. However, both results allow for a rough comparison.

most frequent type than *Beowulf* and a lesser one for the heavier, more complex types. The numbers of types B and C are statistically equal. This suggests that the *Riddle* poet does not exploit the whole range of possible types as extensively as the *Beowulf* poet does and that he prefers the simpler patterns. This also suggests that the metrical composition of the *Riddles* should be considered less varied, and that it is therefore not equal to the very high metrical standard in *Beowulf*, if variety is indeed a measure for metrical quality. A more detailed analysis of the frequency of the individual types and the results of their various metrical criteria will shed light on the differences in metrical composition of the *Riddles* and of *Beowulf*.

In Russom's theory, there are 25 individual types.[84] Types B, B2, C, and C2 are all four listed as individual types, with a monosyllabic light foot as well as with a dissyllabic one. In my database, types B, B2, C, and C2 include the monosyllabic and the dissyllabic light foot. The number of types is therefore reduced to 21 as opposed to Russom's 25. All types are automatically arranged in alphabetical order and numbered accordingly. I include the hypermetrical verses as an additional type and arrive at a total number of 22 types. They are listed in the following table.

Table 6: Order and Numbering of Types in the Database

No	**R/S Type**[85]	**Pattern**	**No**	**Type**	**Pattern**
1	3A	Sxx/Sx	12	C2	x(x)/Sxx
2	3Ab	Sxx/Ss	13	Da	S/Ssx
3	A1	Sx/Sx	14	Da2	S/Sxx
4	A2a	Ss/Sx	15	Da2x	Sx/Sxx
5	A2ab	Ss/Ss	16	Dax	Sx/Ssx
6	A2b	Sx/Ss	17	Db	S/Sxs
7	A3	xx/Sx	18	Db2	S/Sxxs
8	A3b	xx/Ss	19	Db2x	Sx/Sxxs
9	B	x(x)/Sxs	20	Dbx	Sx/Sxs
10	B2	x(x)/Sxxs	21	E	Ssx/S
11	C	x(x)/Ssx	22	hyp	Sx//Sx/Sx[86]

From the table above, it becomes clear that the very high percentage for the Sievers type A may well be misleading, since it comprises 8 different types, the 3 types of standard weight 3A, A1, and A3b, the light type A3, and the 4 heavy types 3Ab, A2a, A2ab, and A2b. The frequencies of all of the individual types will allow for a far more accurate picture. All of these types are discussed in separate sections below.

Figure 4 shows the percentages of the 22 types normalized on the number of readable verses.[87]

[84] See Table 3 on page 9.

[85] The column labels the patterns according to Russom's adaptation of the basic Sievers types: Russom/Sievers Types.

[86] There are more patterns of hypermetrical verses. See "Hypermetrical Verses" on page 60.

[87] See Figure 1 on page 7.

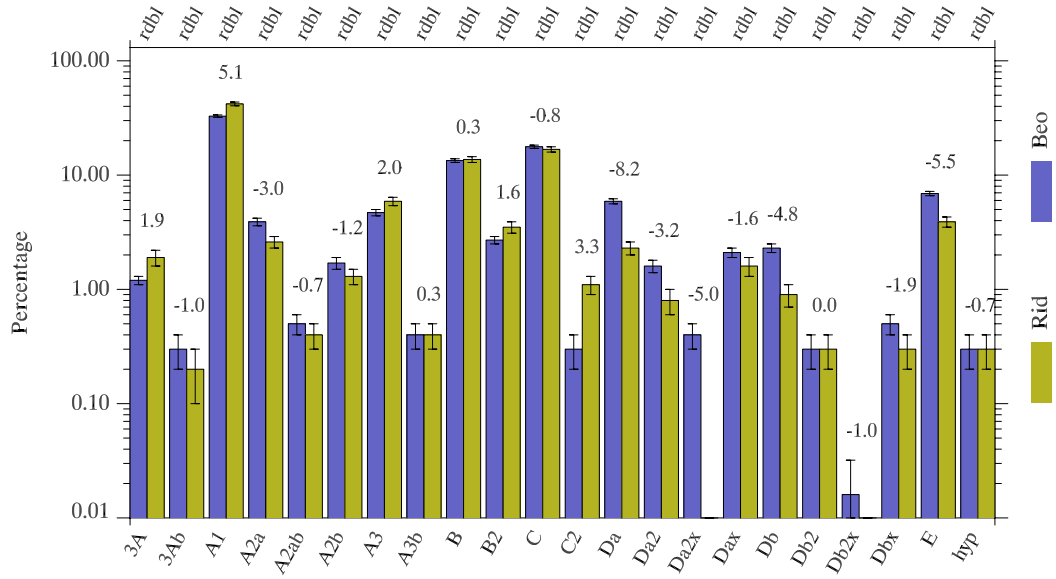

Figure 4: Percentages for the twenty-two types. Normalization labeled in the top row. Percentages in logarithmic array.[88]

At first glance, the results indeed support the hypothesis of the evaluation of the Sievers types that the *Riddle* text is not composed according to the same distribution of verse types as in *Beowulf*. Significant differences are calculated in more than half the types. The *Riddles* have significantly more verses of types A1, 3A, C2, and possibly B2. All four of these types accommodate trochaic or dactylic simplexes and may have unstressed syllables added to the core verse. Type A3 also has a significantly higher percentage in the *Riddles*, which might hint at a metrically inferior overuse of A3.[89] Where the percentages show fewer verses in the *Riddles*, the types are heavy and most of them of low frequency. The frequencies and the order of frequency in the two texts will be discussed in detail after the evaluation of the individual types in a comparison of all types, when more information on these issues is available.[90]

3.1.2. The A Types

Of all the five basic types, type A is the most adaptable in accommodating a variety of syllabic sequences. It is the location for the trochaic word Sx, the most frequent one in Old English as well as the dactylic word Sxx, the rarest of them. It allows a combination of additional syllables to the core Sx/Sx before and after the first foot. Three A types are heavy verses; they contain one or two compounds, in the first, in the second or in both feet. It is obvious that A types as one group have by far the highest percentage in both texts. Figure 3 on page 26 shows that the group of A types shows a significant discrepancy in distribution in *Beowulf* and in the *Riddles*. There are 45.5% A types in *Beowulf* and 54.6% in the *Riddles*. The great variety of A types does not allow any

[88] See Table 21 on page 60. The logarithmic array of the percentage scale in the graph allows accurate reading of the smallest and the largest percentage values.

[89] See "Type A3" on page 60 for percentages and a discussion of the issue.

[90] See "Frequency of All Types" on page 60.

interpretation on this basis. The individual types are analyzed separately for a more accurate comparison. Figure 5 illustrates the statistical deviation of the A types.

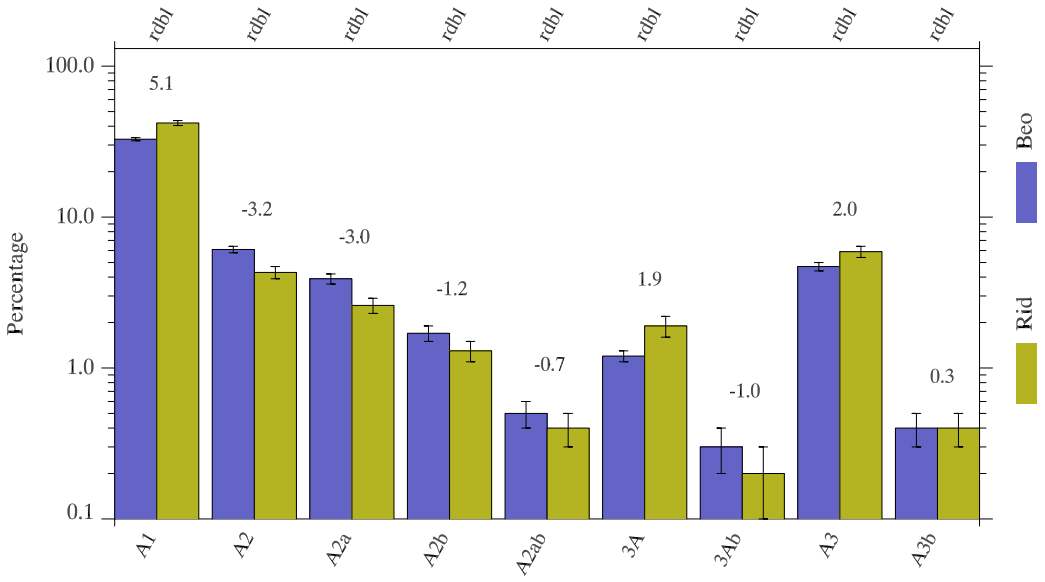

Figure 5: Percentages of A types. Normalization labeled in the top row. Percentages in logarithmic array.[91]

The types are rearranged in the figure in the order I have chosen to discuss them. A1 takes pride of place, since it is the most frequent and also the most variable one. Its description offers the opportunity to explain all of the various possibilities of accommodating underlying language material that may also occur in other types.

Of the 8 types of A, there are 4 that show significant statistical deviation, 3A, A1, A2a, and A3. A2b shows a tendency for statistical deviation. The light verses are more often used in the *Riddles*, and the heavy patterns have a higher frequency in *Beowulf*. Arguing along the line that light verses are less complex than heavy ones, the findings in the A types again hint at a less complex poetic composition in the *Riddles* than in *Beowulf* similar to the comparison of the five basic types.[92] However, the distribution of types serves as a rough comparison, whereas the discussion of crucial rules and restrictions of certain metrical features of the types yields insight into the accuracy of finer points of metrical composition.

3.1.3. Type A1

The A1 type is by far the most frequent in both texts.[93] It may contain quite a variety of language material next to the core verse Sx/Sx with two trochaic words.[94] It may accommodate syllabic sequences consisting of more than four syllables as in the core verse, i.e. syllables in anacrusis and internal extrametrical syllables.[95] It allows a word

[91] See Table 22 on page 60.

[92] See "Complexity" on page 60.

[93] See Figure 4 on page 28.

[94] The number of core verses does not include verses with one compound form, the so-called whole-verse compounds. They are treated separately on page 60.

[95] See "Notational System" on page 12 and "Anacrusis" on page 60.

group on the first Sx position that is usually occupied by a trochaic word. It may also consist of a so-called whole-verse compound with one compound form on both feet. The most frequent form is the core verse Sx/Sx with two trochaic words on either foot and no additional extrametrical syllables. It is considered the standard verse, normative in weight and length. An example from *Beowulf* is

Beo 10b	*hȳran scolde* 'should obey'	Sx^{A}/Sx	A1

The various forms of A1 types are compared in the following section.

3.1.3.1. Linguistic Material in Type A1

Figure 6 shows the percentages of the groups of A1 types with specific linguistic material.

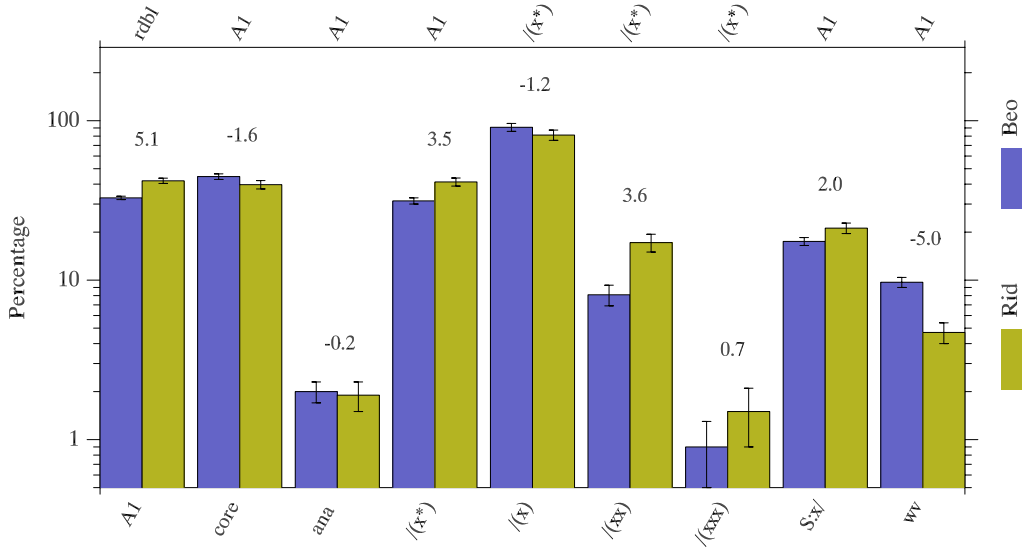

Figure 6: Linguistic material in A1. Normalization labeled in the top row. Percentages in logarithmic array.[96]

The first specific A1 type is the core verse Sx/Sx. It occurs in 44.6% of all the A1 types in *Beowulf* and in 39.7% in the *Riddles*. The percentages indicate a tendency of a higher frequency in *Beowulf*, but the discrepancy is not statistically significant. The ratio of its numbers must be considered statistically comparable.

Two groups of A1 types with extrametrical linguistic material occur in *Beowulf* as well as in the *Riddles*, verses with syllables in anacrusis ((x*)Sx/)and with internal extrametrical syllables (/(x*). First, verses with anacrusis are evaluated. A typical example is

Beo 107a	*in Cāines cynne* 'as kin of Cain'	$(x)S^{A}x/S^{A}x$	A1

[96] See Table 23 on page 60.

A1 types with anacrusis occur with comparable percentages in both texts. In *Beowulf*, 41 verses or 2% of A1 verses have anacrusis; in the *Riddles* there are 19 such verses or 1.9%. The *Riddles* show anacrusis with only one syllable. *Beowulf* has three A1 verses with two syllables in anacrusis.[97] In *Beowulf*, syllables in anacrusis are usually occupied by unstressed prefixes or negative particles. The same holds true for the *Riddles*. Both poets allow syllables in anacrusis in A1 types of various syntactic composition, in verses with internal extrametrical syllables, in variants with a word group in the first foot, and with a combination of extrametrical syllables and word groups. In the core verses there is only one with anacrusis in *Beowulf*, none in the *Riddles*. All of the percentages show non-significant statistical values.[98] So far, there is no evidence of different verse craft.

Apart from the verses with anacrusis, there are those with internal extrametrical syllables

Beo 14a	*folce tō frōfre*	$S^Ax/(x)S^Ax$	A1
	'[for the] people [to their] comfort'		

Both texts show verses with 1, 2, or 3 extrametrical syllables. The percentages for the total number show a significant statistical deviation. In *Beowulf* there are fewer A1 verses with extrametrical syllables than in the *Riddles*, namely 31.4% in *Beowulf* and 41.3% in the *Riddles* with a significance of 3.5. The distribution of verses with one or three syllables also show a discrepancy in distribution. The result for the verses with one internal extrametrical syllable indicates a slight tendency for higher frequency in *Beowulf*. The verses with two syllables show a significantly greater number in the *Riddles*. With 17.6% in the *Riddles* and 8.1% in *Beowulf*, the ratio is more than 2:1 and a significance of 3.8. Although the *Riddle* poet used such verses more freely, he kept the number of internal extrametrical syllables at three, just like the *Beowulf* poet. The discrepancy in the percentage for A1 verses in the *Riddles* is largely due to the greater number in this specific group with 2 internal extrametrical syllables.[99]

A third group of A1 verses shows a mismatch between metrical positions and linguistic material. Instead of a trochaic word, they have a word group in the first foot[100]

Beo 13a	*geong in geardum*	S^A:x/S^Ax	A1
	'young in the court'		

There is a significant difference in distribution in the two texts. With a statistical significance of 2, the *Riddles* show a significantly higher use of word groups in the first foot with the percentage of 21.2% compared with 17.5% in *Beowulf*.

In another group of specific A1 types, both feet are occupied by one compound word, the so-called whole-verse compound. A typical example from *Beowulf* is

Beo 39a	*hildewǣpnum*	S^Ax=/Sx	A1
	'[with] battle weapons'		

[97] Beo 109a, 1248a, 1711a. Calculations of percentages in Table 23 on page 60.

[98] See also "Anacrusis" on page 60.

[99] See also "Internal Extrametrical Syllables" on page 60.

[100] There is no example of a word group in the first foot in *Beowulf*, and only one in the *Riddles*, the introductory verse in Rid 47.1a: *moððe word fræt*, an A1 verse scanned Sx/S:x. Its occurrence must be ignored in the statistical comparison.

Their number is significantly higher in *Beowulf*. Since the *Beowulf* poet used about twice as many compound forms as the *Riddle* poet, these numbers have to be expected. They have no implication with regard to the metrical structure of the A1 type in any case.

3.1.3.2. Distribution of Type A1 to the A-Verse

Figure 7 shows the distribution to the a-verse of all the A1 types with various underlying linguistic material in the two texts as they are discussed in the previous sections.

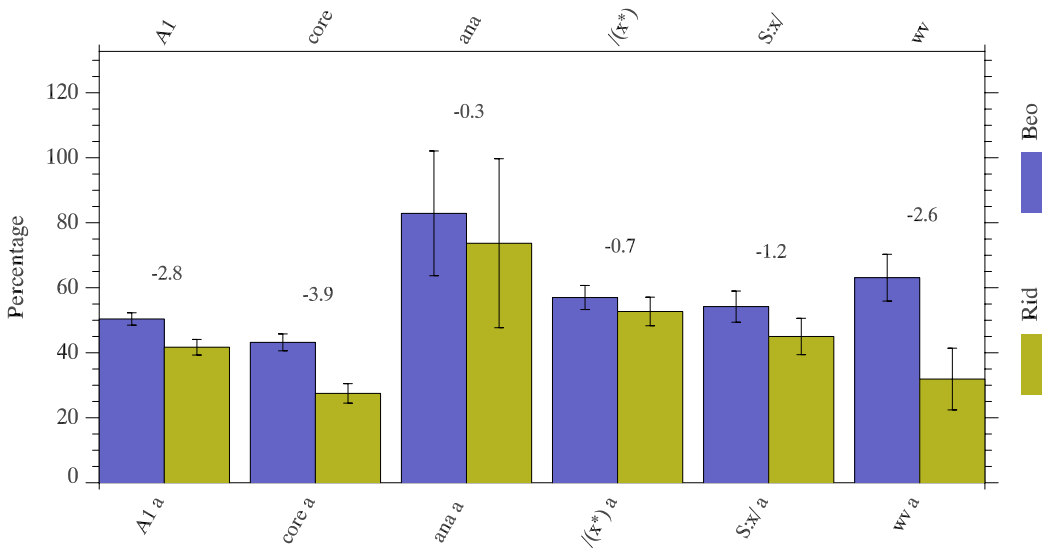

Figure 7: Distribution of A1 and its variants to the a-verse. Normalization labeled in the top row. Percentages in linear array.[101]

The A1 type in all its forms is quite evenly distributed to the a- and the b-verse, in *Beowulf* with 50.4% in the a-verse and with 41.7% in the a-verse in the *Riddles*. The discrepancy in the percentages is statistically significant with the calculated value of -2.8.[102] The analysis of the distribution to the a-verse of the A1 types of a specific linguistic composition yields the following results. The core verse with two trochaic words shows an even greater difference in distribution. In this variant, the greater percentage occurs in the b-verse in *Beowulf*. With 56.8% b-verses, the share is by far smaller than the one in the *Riddles* with 72.5%. The *Riddle* poet obviously shows a strong preference for the implementation of the A1 type with two trochaic words in the b-verse, reducing complexity in the b-verse to an even greater extent than the *Beowulf* poet.

The A1 verse with anacrusis shows almost no discrepancy in distribution. In *Beowulf*, 82.9% of verses with anacrusis occur in the a-verse and 73.7% in the *Riddles*. This result and the fact that the *Riddle* poet has prefixes and negative particles on the unstressed syllable in anacrusis just as the *Beowulf* poet does, testifies to the adherence in the *Riddles* to the rules and restrictions of a crucial metrical feature.

[101] See Table 24 on page 60.

[102] The discrepancy in the value of the statistical significance is explained by the varying distribution to the a- and the b-verse in the two texts.

The distribution of verses with internal extrametrical syllables to the a- or the b-verse is statistically equal in the two texts. Both show a very slight tendency to accommodate the variant in the a-verse rather than the b-verse. *Beowulf* has 57% in the a-verse and the *Riddles* have 52.4%.

A1 types with a word group in the first foot are distributed with no statistical significance. However, in *Beowulf*, with 54.2%, there is a slight tendency toward using them in the a-verse, whereas in the *Riddles*, with 55% the tendency lies with the b-verse.

The whole-verse compounds are not distributed with comparable percentages. The *Riddle* poet has significantly fewer in the a-verse than the *Beowulf* poet with 31.9% in the *Riddles* vs. 63.1% in *Beowulf*.

3.1.3.3. Double Alliteration in Type A1

The significantly different percentages for double alliteration in the various groups of type A1 verses that are discussed above are presented in Figure 8.

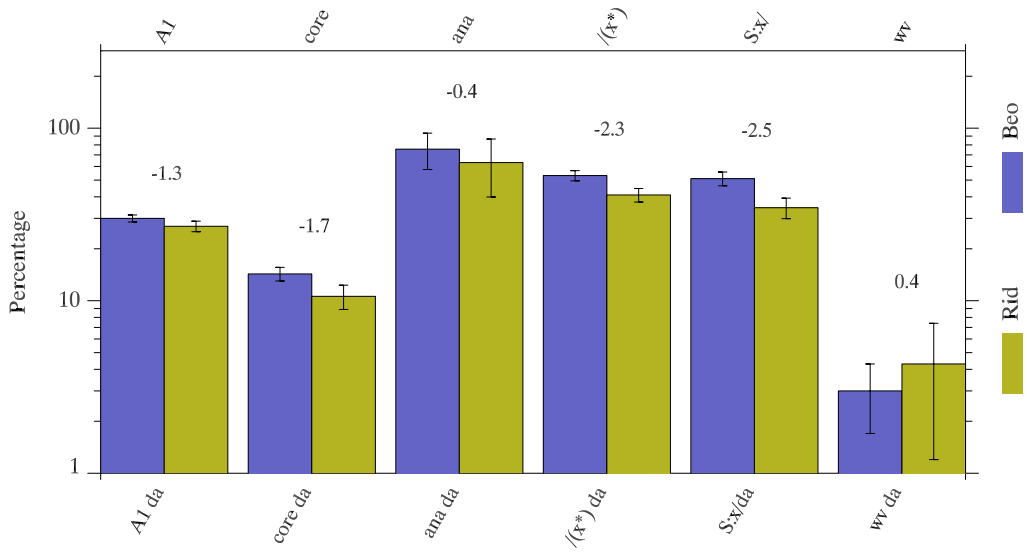

Figure 8: Double alliteration in the variants of type A1 a-verses. Normalization labeled in the top row. Percentages in linear array.[103]

Two of the variant forms of A1 verses with double alliteration show statistically equal distribution in the *Riddles* and in *Beowulf*, verses with anacrusis and whole-verse compounds. The verses with anacrusis show high percentages in both texts, 75.6% for *Beowulf* and 63.2% for the *Riddles*. So, anacrustic verses are preferably placed in the a-verse in *Beowulf* and in the *Riddles*. The exceedingly small number of A1 whole-verse compounds with double alliteration yields neither a conclusive result nor an indication of a certain tendency, despite the fact that the difference is not statistically significant.

Two results show a slight tendency toward a significant discrepancy, the total number of A1 verses with double alliteration and the core verses with double alliteration. Both tend to be less frequent in the *Riddles*. The significant discrepancies are found in the A1 variants with internal extrametrical syllables and with word groups. The share of

[103] See Table 25 on page 60.

double alliteration in A1 types with extrametrical syllables is slightly over 50% in *Beowulf*. The *Riddle* poet, on the other hand, composes the A1 type with internal extrametrical syllables significantly more often with single alliteration. The ratio is 40% to 60%. Non-heroic subject matter may make it more difficult to achieve double alliteration.

A very similar constellation is seen in verses with word groups occupying the first foot. They show a high percentage of a-verses with double alliteration in both texts with equal distribution. Since only about half of the A1 types with a word group are a-verses, the ratio of double alliteration to single alliteration is about 50% to 50% in *Beowulf*. In the *Riddles*, however, only about one third of them have double alliteration. The ratio is 35% to 65%. So, the *Riddle* poet does indeed use double alliteration significantly less often with his A1 variant with a word group. On the whole, double alliteration in the A1 type including all of the subgroups discussed above, may be considered a stylistic feature that does not fall under any concrete metrical rule or restriction, since double alliteration and single alliteration are equally distributed in *Beowulf*. Nevertheless it should be noted that the *Beowulf* poet uses significantly more double alliteration than the *Riddle* poet in the A1 types with internal extrametrical syllables or word groups. Since double alliteration is said to alleviate complexity, it must be assumed that, in the *Riddles*, internal extrametrical syllables and word groups are not considered to add complexity to the A1 type in the same degree as in *Beowulf*. This might be an indication for limited archaisms in the language of the *Riddles* and therewith a sign of a change in language that the *Riddle* poet integrates in the style of composing his verse. The results for the type with anacrusis supports the assumption that the difference lies in stylistic variance and not in metrical discrepancy. The vast majority of verses with anacrusis have double alliteration in both texts with an almost identical statistical distribution. In these verses with an obvious preference in *Beowulf*, the *Riddle* poet favors the same composition for the a-verse as the *Beowulf* poet.[104]

3.1.3.4. Resolution in Type A1

Resolution is subject to rules and restrictions.[105] The resolved sequences show preferences for positions and the distribution to the a-verse in *Beowulf*.[106] Figure 9 illustrates the percentages for the resolved primary positions in the first and the second foot (labels S f1 and S f2) and their distribution to the a-verse in *Beowulf* and in the *Riddles* in type A1.

The percentages show the same distribution for resolution on the first primary position. Both texts have 12% of verses with a resolved first primary position in A1. Resolution on the second primary position, however, shows a significant difference. The share of resolved second primary positions in *Beowulf* is significantly lower than the one of the first primary positions with 7.4%. The calculated value for the statistical significance between the shares of the first and the second primary position in *Beowulf* is -4.8. In the *Riddles*, the difference is even greater with 3.7% and a significance of -6.3.[107]

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[104] See also "Double Alliteration" on page 60.

[105] See "Resolution" on page 60.

[106] See Suzuki's (1996: 203f.) evaluations. Note that types in Suzuki are not the same as in my notation and the numbers of his calculations do not match my counts.

[107] The proportions are not shown in the graph, they are calculated values from the database.

This means that the preference of resolved sequences on the first primary position in *Beowulf* is even more pronounced in the *Riddles* and does not indicate a deviation from the practice in *Beowulf*, on the contrary, it demonstrates closer adherence to the preferred handling of resolved sequences on the first primary position.

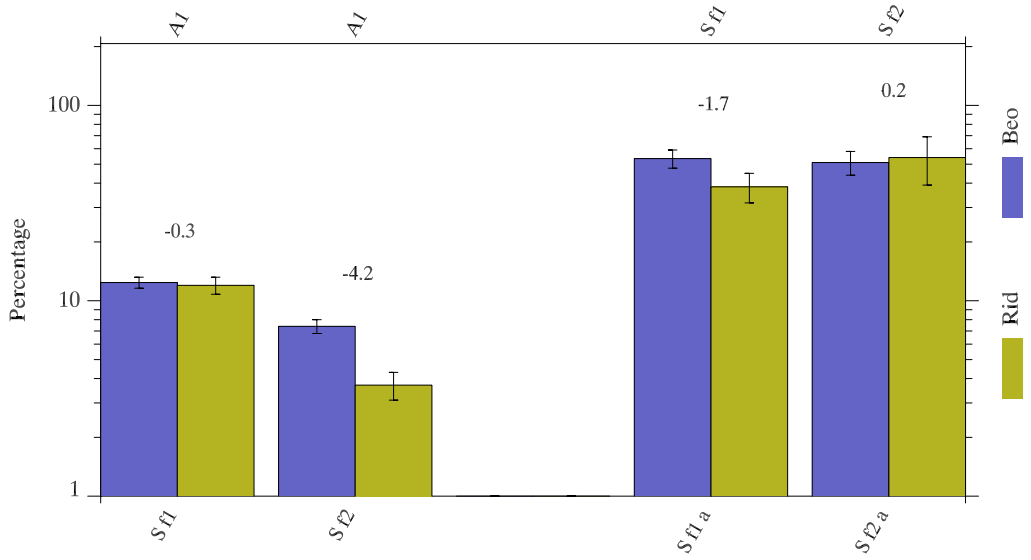

Figure 9: Resolution in A1 and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[108]

The distribution to the a-verse shows two discrepancies. First, in *Beowulf*, about 50% of both resolved positions, the first and the second primary position, are in the a-verse. In the *Riddles*, the percentages for the resolved positions on the first primary stress are lower than those for resolution on the second primary stress. The difference is not significant in comparison with the percentage in *Beowulf*, but it does show a tendency for a lower number. However, the deviation between the percentages for the first and the second resolved primary positions in the *Riddles*, although conspicuous in the graph, are not significantly different. So, even with the discrepancies displayed in the figure above, the implementation of resolution in type A1 must be considered on an equal footing in both texts.[109]

3.1.3.5. Suspended Resolution in Type A1

There are a handful of verses with irregular resolution in type A1. They have an unresolved sequence on the second primary position that is supposed to be resolved.[110] An unresolved sequence on the S position of the second foot is usually counterbalanced with a compound in the first foot in *Beowulf* resulting in an A2a type scanned Ss/Sx.[111] However, according to Russom's scansion, there are indeed 5 A1 verses or 0.2% of A1

[108] See Table 26 on page 60.

[109] For the comparison of the positions of the resolved sequences on the primary positions in all the types see "Resolution" on page 60.

[110] See "Resolution" on page 60.

[111] See "Suspended Resolution in Type A2a" on page 47.

types in *Beowulf* that have an unresolved sequence on the S position of the second foot.[112] One example is

Beo 845a	*nīða ofercumen* '[by] battle overcome'	S^{A}x/(xx)Sx	A1

These verses are widely discussed among metrists. Russom (1987a: 46, 117) accepts them as rare A1 types on the bases of requirement of a minimum of 4 metrical positions per verse. Bliss does not attribute all of the five verses to the same type.[113] He scans the example above as 2E1b type ´– x | x x ´– along with the two 2E1a types

Beo 881a	*ēam his nefan* '[the] uncle his nephew'	´– x | x ´–	2E1a

and

Beo 954a	*dǣdum gefremed* 'deeds brought about'	´– x | x ´–	2E1a

An E type with an unstressed second position in the first foot is rejected by Russom (1987a: 27). The secondary position in type E is normally occupied by the root syllable of the second constituent of a compound or the root syllable of a trochaic word if there is a word group in the first foot S:sx/. Only a medial long syllable may occasionally stand on the s position in type E, but not an unstressed inflectional syllable.[114] The three examples therefore do belong to type A1 with a very unusual unresolved second primary position. The remaining two verses are scanned by Bliss as

Beo 1828b	*hwīlum dydon* '[at] times did'	´– x | ´– x	2A1a

and

Beo 2430b	*Hrēðel cyning* 'Hrethel [the] king'	´– x | ´(x	2C2

In the first example, Fulk replaces the verb form *dydon* with Anglian *dēdon* or poetic *dǣdon* with the regular scansion of an A1 type. The second example, scanned as a verse with only three metrical positions by Bliss, is unacceptable in Russom's and in Fulk's view. The requirement of four positions is absolute; both authors would go along with Sievers and scan it with an unusual short lift. Suzuki in turn regards both verses as exceptional.[115] In view of the different interpretations of the five verses in other metrical works, it makes sense to take the group of five verses as a given type or complex variant of type A1 and compare the same patterns in the *Riddles* with the same criteria for scansion. Figure 10 shows the corresponding percentages.

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[112] Sievers (1885a: 231) lists 9 verses: Beo 1112b, 1457b, 1807b, 1828b, 1942b, 2256b, 2430b, 2457b, 3135b. He includes verses with a long derivational ending on the secondary position that Russom scans as A2a types; this scansion is discussed in "Heavy Affixes" on page 21.

[113] Bliss (1958: §84, 135ff.: Index to the Scansion of Beowulf).

[114] Fulk (1992: 95, f.n. 3), Suzuki (1996: 120f.).

[115] Russom (1987a: 51f.), Fulk (1992: 98, f.n. 6, 184f., f.n. 29, 229, f.n. 104, 320), Suzuki (1996: 86).

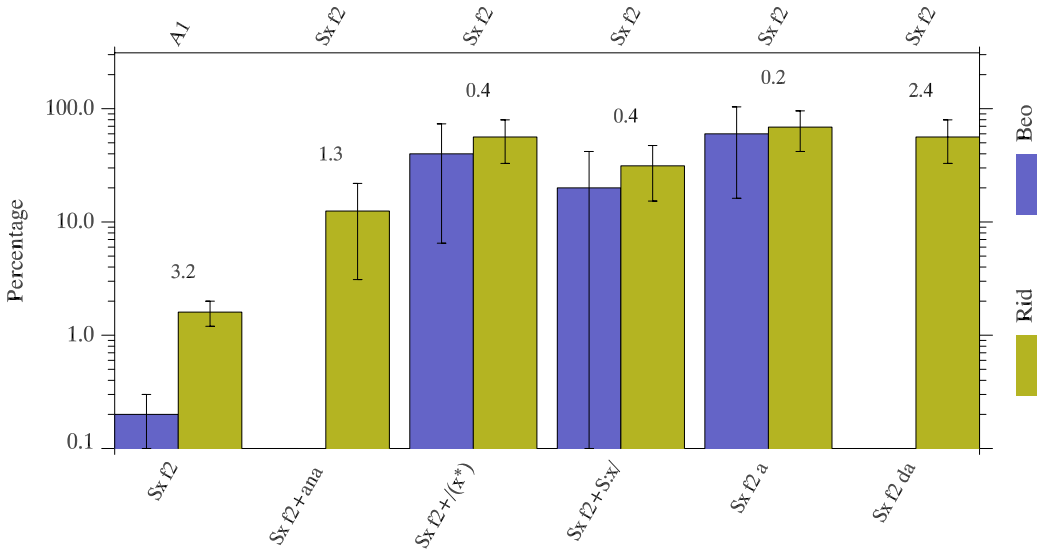

Figure 10: Suspended resolution in A1, its distribution to the a-verse, and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[116]

The group of verses with an unresolved primary position in the second foot is significantly larger in the *Riddles*: there are 16 A1 verses or 1.6% with an unresolved sequence in the second foot in the *Riddles* and 5 verses or 0.2% in *Beowulf*.[117] The linguistic material differs with regard to anacrusis and extrametrical syllables and word groups. The deviations, however, do not show statistical significance, but the tendency remains the same as in the A1 types as a whole group: in the *Riddles*, there are more extrametrical syllables incorporated than in *Beowulf*, and equally more word groups take the place of a simplex in the first foot.

The distribution to the a-verse is statistically equal: in *Beowulf*, 60% are in the a-verse, in the *Riddles*, almost 70%.

Double alliteration is only found in the *Riddles*: over half of all the examples in the a-verse, i.e. 56%, have double alliteration. The percentage is similar to that of double alliteration in all the A1 types in the a-verse, which is almost 65%.

All of the resolvable sequences in the examples from *Beowulf* have a long final syllable as would be required for unresolved sequences according to Kaluza's Law.[118] The same holds true for the *Riddles*. Out of 16 examples, 12 final syllables are closed by a consonant and the remaining 4 examples, the final inflectional endings are long according to Fulk's list.[119] Since both texts do not fulfill the requirement for suspended resolution that the resolvable sequence must be immediately preceded by a stressed

[116] See Table 27 on page 60.

[117] Beo 845a, 881a, 954a, 1828b, 2430b; Rid 14.14a, 15.2a, 17.11a, 20.6a, 26.3b, 27.13a, 27.14a, 32.11a, 38.7b, 46.6a, 80.4b, 84.22a, 84.22b, 84.23a, 84.44a, 91.1b.

[118] Metrists debate the applicability of Kaluza's Law to type A1 with an unresolved second foot (Fulk 1992: §§173, 275 f.n. 4; Hutcheson 1995: 70ff., 72 f.n. 15; Suzuki 1996: 218f.). See also "Resolution" on page 60.

[119] Fulk (1992: 419-425).

syllable, the omission may be disregarded as a criterion of metrical difference between the texts. The larger number of such unusual verses in the *Riddles* may possibly be explained by the repetition of a particular syntactic structure. Almost half of them show an identical syntactic sequence as in the example

Rid 27.13a	*Strengo bistolen* '[of] strength deprived'	$S^{A}x/(x)\underline{Sx}$	A1

that might be described as "verbed by means of". Two of the verses in *Beowulf* show the same phrase, Beo 845a and 954a. The expressions in the *Riddles*, with the exception of one, occur in clusters, in Rid 27.13a and 14a, in Rid 84.22a and b, 23a and 44a, and in Rid 91.1b. The fact might support the hypothesis of formulaic usage, but, of course, the number is too small to yield any kind of conclusive result. It should also be noted that within the broader tradition of alliterating meter, verses like

Beo 2430b	*Hrēðel cyning* 'Hrethel [the] king'	$S^{A}x/\underline{Sx}$	A1

do occur with greater frequency than in *Beowulf* owing to a restriction on resolvable sequences on the s position.[120] In any case, the *Riddle* poet used these unusual verses with much less reluctance than the *Beowulf* poet and added extrametrical syllables and word groups even more freely as in his other A1 types.

3.1.3.6. Summary for Type A1

On the whole, in the A1 type there are significant differences between *Beowulf* and the *Riddles* with regard to the number of verses with internal extrametrical syllables and whole-verse compounds. The *Riddle* poet's very frequent use of verses with internal extrametrical syllables and the less frequent use of whole-verse compounds may well be a stylistic feature without metrical implication. The distribution to the a-verse with a lower percentage in the *Riddles* than in *Beowulf* of all the variants does not show any significant difference that might involve metrical deviation. However, there is an obvious preference in *Beowulf* to compose A1 types with internal extrametrical syllables and with word groups in the a-verse and with double alliteration, a means of reducing complexity according to Russom (1987a: 83ff.). In *Beowulf*, the a-verse is obviously the preferred location for the more complex variants and consequently, the *Riddle* poet does not consider the mismatch between the underlying linguistic material and the metrical type represented by internal extrametrical syllables and word groups as added complexity to the same extent as the *Beowulf* poet does. The narrative style of the *Riddles* representing a less archaic diction, in which the deletion of function words is no longer an obvious choice, as in the well known use of compounds and variation in the epic style of *Beowulf*, seem to be the reason for the discrepancy in composition and distribution of the A1 type and its subgroups.

Resolution is comparable in the *Riddles* and in *Beowulf*. Verses with suspended resolution, however, are more numerous in the *Riddles* and show an even greater variety and higher numbers of verses with extrametrical syllables and word groups than in the A1 types without suspended resolution.

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[120] Russom (1998: 107).

All of these features will be addressed in the evaluation of all the other types and compared with each other in the corresponding sections of the chapter entitled "Comparison of Features" on page 134.

3.1.4. Type A2

The A2 types are heavy verses, deviating from normative weight by one or two additional s positions. They accommodate the linguistic material of the combination of a short compound Ss and a simplex Sx or the combination of two short compounds or the equivalent word groups. Either foot may be occupied by the compound or the simplex. Figure 11 shows the distribution of the A2 types in the total of readable verses and the distribution of the three types in the whole group of A2 types.

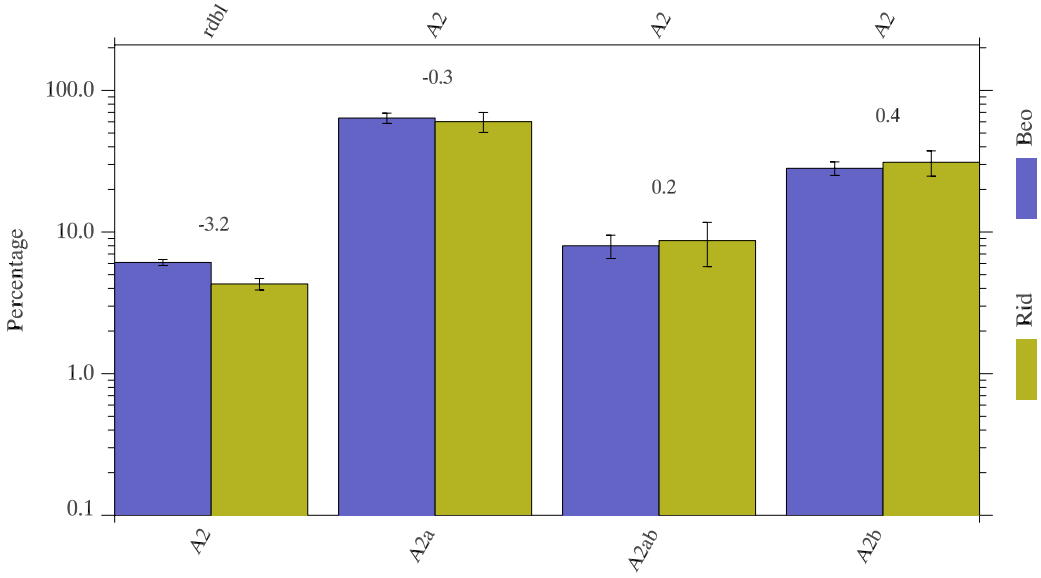

Figure 11: Percentages of A2 types. Normalization labeled in the top row. Percentages in logarithmic array.[121]

A2 verses are not numerous. Only 6.1% of all readable verses in *Beowulf* and 4.3% in the *Riddles* belong to the A2 type. There are significantly more A2 verses in *Beowulf* than in the *Riddles.* The distribution of the three types shows a significant discrepancy for the A2a type. It is responsible for the larger number of A2 types as a group. The distribution of the three types within the A2 group is statistically equal. In both texts, roughly 60% of the A2 types are A2a verses, roughly 30% are A2b verses, and roughly 10% are A2ab verses. The most frequent type A2a is discussed first.

3.1.5. Type A2a

The A2a type ranks as number 7 in *Beowulf* and as number 8 in the *Riddles* in the list of types ordered according to their frequency.[122] The type has the compound word in the first foot and the trochaic word in the second as in the example

[121] See Table 28 on page 60.
[122] See Figure 72 on page 60 and Table 10 on page 60.

Beo 7a	*fēascēaft funden* 'found desolate'	$S^{A}s/S^{A}x$	A2a

Apart from the core verse Ss/Sx, it may contain an internal extrametrical syllable or a word group S:s in the first foot instead of the compound Ss. No A2a verses in *Beowulf* have both an internal extrametrical syllables and a word group. The *Beowulf* poet uses the A2a type more frequently than the *Riddle* poet. The discrepancy is not excessive, but it supports the hypothesis that the *Riddles* contain fewer heavy verses than *Beowulf*.
Figure 12 includes the percentages for the various possibilities of underlying language material.

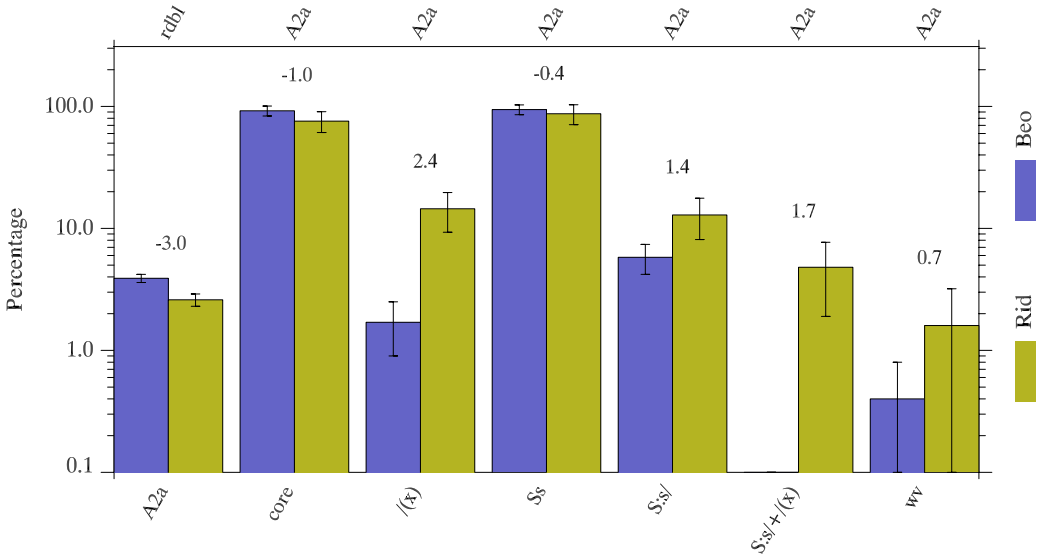

Figure 12: Linguistic material in A2a. Normalization labeled in the top row. Percentages in logarithmic array.[123]

3.1.5.1. Linguistic Material in Type A2a

The *Beowulf* poet does not allow as many variations in linguistic material in the A2a type as in the A1 type. The largest part of the A2a verses in *Beowulf* and in the *Riddles* are core verses. There are 221 or 92.1% core verses in *Beowulf* and 47 or 75.8% in the *Riddles* of the type

Beo 203a	*lȳthwōn lōgon* '[they] said very little'	$S^{A}s/S^{A}x$	A2a

The percentages do not show a statistically significant deviation. There are no A2a verses with syllables in anacrusis, neither in *Beowulf* nor in the *Riddles*, which further validates the general rule that anacrusis does not occur at all in verses with a reversed pattern[124]. The complexity of the verse seems already too extensive to be able to accommodate the added complexity of anacrusis.[125]

[123] See Table 29 on page 60.
[124] Russom (1987a: 34).
[125] See "Complexity" on page 60 and "Anacrusis" on page 60.

Extrametrical syllables do occur in the A2a verse, but only in a handful of A2a verses before the second foot as in

Beo 18a	*Bēowulf wæs brēme* '*Beowulf* was famous'	$S^{A}s/(x)S^{A}x$	A2a

The numbers are exceedingly small. There are only 4 verses in *Beowulf* and 9 in the *Riddles*, of which 2 have two syllables before the second foot. The result is statistically significant and demonstrates that internal extrametrical syllables in the A2a type, just as in type A1, are allowed to a greater extent in the *Riddles* than in *Beowulf*.

The number of verses with a word group in the first foot is again very low for the group of A2a verses like the following example from *Beowulf*

Beo 517a	*seofon niht swuncon* 'seven nights [you] labored'	$\underline{S^{A}}$:s/S^{A}x	A2a

There are 14 verses or 5.8% in *Beowulf* and 8 verses or 12.9% in the *Riddles.* Although the percentage is twice as high in the *Riddles*, the statistical deviation is not significant. Five of the *Riddle* verses, however, are syntactically quite different from those in *Beowulf*.[126] Their secondary s position in the word group of the first foot is occupied by a finite verb. In *Beowulf*, a verb form is found only once on this position. It is therefore questionable whether the *Riddle* verses should be scanned as A2a types at all. The problem is indeed not easily solved. A scrutiny of the syntactic material and corresponding metrical features of similar A2a types in *Beowulf* does not yield a convincing result. The type shows extremely few variations in the language material in *Beowulf*. Most of the A2a types are core verses. Only a small number of them have a word group on the compound foot and of those, there is only one with a finite full verb on the secondary position like the *Riddle* verses with a similar syllabic sequence that must be considered unusual

Beo 90a	*swutol sang scopes* 'clear song of the poet'	$\underline{S^{A}}$:s^{A}/$\underline{S^{A}x}$	A2a

The question here is whether the verse should possibly be scanned as A1 with the finite verb on an unstressed position in the first foot

	$\underline{S^{A}}$:x/$\underline{S^{A}x}$	A1

This would mean to regard the verb form on this position as unmetrical and treat its alliterating syllable as insignificant. However, A1 types with an unresolved second foot are rare and none of the five verses in question have a verb form on the first thesis. In fact, all of them have a trochaic simplex in the first foot.[127] All of the A2a types with a word group on the compound foot have a class A word on the secondary position in *Beowulf*, either a noun or in one case an adjective and a finite verb belongs to the word class B.[128] The example with the finite verb is indeed a great exception, but the alliteration on the verb form might well single it out as an acceptable, although very unusual, A2a type in *Beowulf*, due to the extra prominence that alliteration adds to the

[126] See Rid 29.12a, 29.12b, 33.1a, 54.1a, 86.1a.
[127] See Beo 845a, 881a, 954a, 1828b, 2430b.
[128] See definition on page 11.

verb form. The verses with similar underlying language material are even more unusual compared to the one verse in *Beowulf* as the examples demonstrate.

Rid 29.12a	*Dūst stonc tō heofonum* 'Dust rose to heaven'	S^A:s/(x)Sx	A2a
Rid 29.12b	*dēaw fēol on eorþan* 'dew fell on earth'	S^A:s/(x)Sx	A2a
Rid 33.1a	*Wiht cwōm æfter wēge* '[A] creature came through the wave'	S^A:s/(xx)Sx	A2a
Rid 54.1a	*Hȳse cwōm gangan* '[A] young man came walking'	S^A:s/Sx	A2a
Rid 86.1a	*Wiht cwōm gongan* '[A] creature came walking'	S^A:s/Sx	A2a

None of them have an alliteration on the finite verb that might add the required prominence for a stressed position. Moreover, none of the verses have an unresolved sequence in the first foot, which would actually call for an additional stress in the first foot as realized in most cases of an unresolved primary position in an A type.[129] However, scanned as A1 types, they would correspond to an equally rare variation of an A1 type in *Beowulf*. There is only one A1 type with a full verb on the first thesis, all the other examples have auxiliaries on this position.[130] The verb in the one example has *wearð*, the pret.3s. of the full verb *weorðan*, on the first thesis

Beo 1302a	*Hrēam wearð in Heorote* 'Outcry arose in Heorot'	S^A:x/(x)S^Ax	A1

As a full verb, *weorðan* seems rather weak in its semantic content, closer to an auxiliary than to a full verb. And the first thesis of an A1 type is indeed occupied by an auxiliary a number of times in *Beowulf*.[131] This might account for the exception in *Beowulf*. Two of the *Riddle* verses show a verbal construction with a finite verb that might be regarded as less than a full verb, namely the use of *cwōm* with the infinitive *gongan* or *gangan* in Rid 54.1a and 86.1a. Its semantic content seems as weak as an auxiliary's. Rid 33.1a might as well be counted among the group with verbs of weak semantic content acting as an auxiliary to an infinitive in the following verse. However, the two verses in Rid 29 must definitely be exempted from this argument: *stonc* and *fēol* are full verbs without doubt. Despite my scansion of the five verses as A2a types in my database, I tend toward a scansion as A1 types for all five of them, since none of the arguments are convincing in either direction. Moreover, the five verses are too similar to each other to scan them differently, i.e. according to the semantic content of the verb, either as A2a types for the two verses of Rid 29 and as A1 types for the rest of the group. The statistical evaluation shows that if the verses in question are eliminated from the A2a types, the distributions

[129] See "Suspended Resolution in Type A1" on page 35 and "Suspended Resolution in Type A2a" on page 47.

[130] Forms of *ēom* and one with *sceal*. See also Momma (1997: 175) with regard to stress on finite verbs.

[131] Beo 210b, 256b, 700b, 1060b, 1107a, 1159b, 1302a, 1303b, 1322b, 1459a, 1569a, 1703b, 1914a, 2014a, 2183b, 2554a, 2778a, 2783a, 2890b, 3084b, 3093b.

do not vary greatly.[132] The *Riddles* still have significantly fewer A2a types in which more verses have internal extrametrical syllables incorporated. The basic outcome for A2a types remains the same and so does the one for the A1 type. The five *Riddle* verses do deviate from a general syntactic pattern found in *Beowulf*, no matter how they are scanned. It should be noted that there are analogues of this practice in Old Norse, where a finite main verb is in the thesis after the first stress.[133]

The last result in the evaluation of the linguistic material in type A2a, the percentages for whole-verse compounds, shows equal statistical distribution: there is only a single verse with a whole-verse compound in each text.[134] This variant is obviously very rare and with the exceedingly small number, no statistical evaluation is possible.

To sum up, if the verses in question mentioned above are indeed omitted from the count of A2a verses, the percentages for A2a types vary only slightly. The calculation for the verses with internal extrametrical syllables is reduced to a significance of 1.9, indicating a strong tendency toward a significant number instead of the significance of 2.4. The tendency toward more word groups with a significance of 1.4 in the *Riddles* is reduced to a statistically equal number for both texts. It should be noted that the combination of extrametrical syllables and a word group in the same verse is found only in 3 verses of the 5 doubtful A2a types. The *Beowulf* poet does not have any such verses. If these verses are scanned as A1 types, the combination is non-existent. On the whole, with the very small numbers of verses with word groups or with internal extrametrical syllables in *Beowulf* as well as in the *Riddles*, these variants must be counted among the exceptional variations in both texts with a hint at a more liberal use of them in the *Riddles.*

3.1.5.2. Distribution of Type A2a to the A-Verse

Of the 240 A2a verses in *Beowulf*, 176 or 73.3% are in the a-verse. In the *Riddles*, there are 62 A2a types of which 34 or 54.8% are in the a-verse. The discrepancy shows only a tendency toward a more even distribution in the *Riddles* and a preference for the a-verse in *Beowulf*.[135]

Figure 13 contains the percentages of A2a types and its variant forms in the a-verse.

The distribution of the core verse yields a similar result, 73.8% in the a-verse for *Beowulf* and 53.2% for the *Riddles* with a significance of -1.4 compared with the one of the distribution of all the A2a verses of -1.3. There are only very few A2a verses with internal extrametrical syllables. Their percentages among all the A2a verses show an equal statistical distribution in both texts. All of the 4 verses or 100% are in the a-verse in *Beowulf* and only 5 of 9 or 55.6% in the *Riddles*. Although the percentages show a drastic discrepancy, the distribution to the a-verse must be considered just barely significant. Verses with a word group are distributed in both texts with a preference for the a-verse, with 57.1% in *Beowulf* and 62.5% in the *Riddles*. There is no significant

[132] See Table 30 on page 60 for the alternate calculations.

[133] Russom (1998: 132).

[134] See Beo 1266a and Rid 20.15a.

[135] See also the distribution of A2a types with suspended resolution on page 48 and "Distribution to the A-Verse" on page 60.

deviation. The one whole-verse compound in each text is in the a-verse, therefore the 100% value.

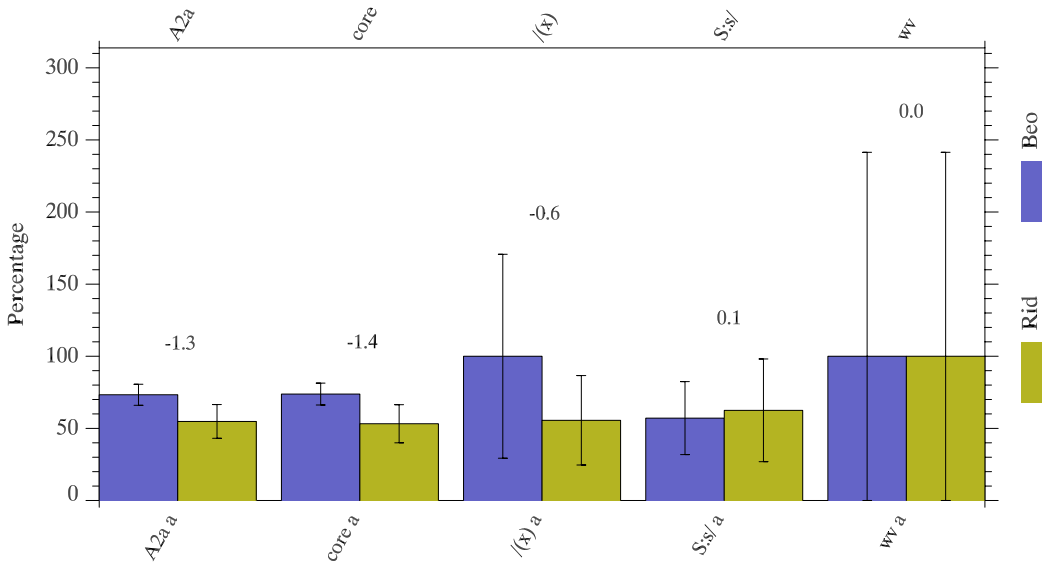

Figure 13: Distribution of A2a and its variants to the a-verse. Normalization labeled in the top row. Percentages in linear array.[136]

3.1.5.3. Double Alliteration in Type A2a

Double alliteration shows statistically comparable frequencies for the A2a type with internal extrametrical syllables and with word groups. One verse has triple alliteration and there is one whole-verse compound in the a-verse of an A2a type in *Beowulf*. Such variants do not exist in the *Riddles*.[137] The total number of A2a verses with double alliteration and the A2a core verses are statistically different in *Beowulf* and in the *Riddles*. Figure 14 shows the corresponding percentages.

It is obvious that the *Beowulf* poet clearly prefers double alliteration for the total number of his A2a verses with almost 70%, whereas the *Riddle* poet uses double alliteration in less than 40% of all the A2a types. The outcome must be considered in relation to the variant of A2a with an unresolved sequence, which occurs more often in the b-verse in both texts. The calculation of the a-verses of type A2a verses with double alliteration shows no statistical deviation between *Beowulf* and the *Riddles*. The issue is further addressed in the discussion of suspended resolution in A2a and its distribution to the a-verse.[138] The result for core verses is different in the same way as the result for all of the A2a verses, which must be expected with the very high number of core verses among the A2a types in both texts: only the calculation normalized on the total number of A2a verses shows a statistically significant discrepancy, not so the calculation normalized on the number of a-verses.

[136] See Table 31 on page 60.
[137] See Beo 90a, possibly Beo 570a (the verse is not included in the count because of an unusual epenthetic vowel).
[138] See page 48 below.

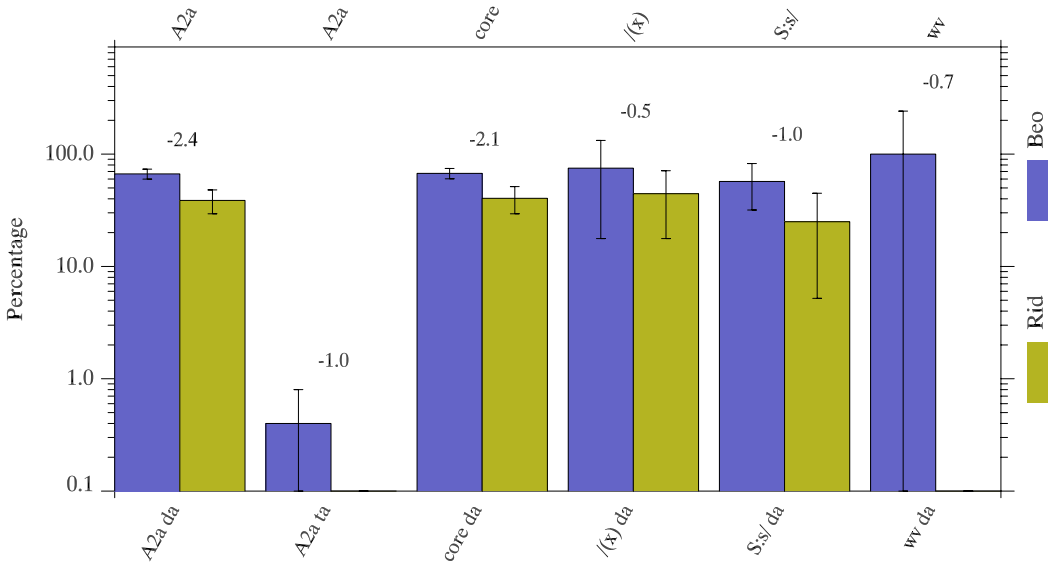

Figure 14: Double alliteration in the variants of type A2a a-verses. Normalization labeled in the top row. Percentages in logarithmic array.[139]

To sum up, the *Beowulf* poet prefers double alliteration for his A2a verses with a significant deviation compared to the A2a verses in the *Riddles.* Although the A2a is a heavy and therefore a complex type, double alliteration is not used in the *Riddles* to a significant extent that might suggest compensation for complexity. On the contrary, fewer A2a verses show double alliteration than single alliteration in all the variant groups. However, the comparison with *Beowulf* shows statistically significant deviation only if normalized on the total number of A2a types and not on the a-verses of the type.[140]

3.1.5.4. Resolution in Type A2a

Resolution in type A2a occurs on the primary and the secondary positions. Unlike in type A1, here Kaluza's Law comes into play. The second syllable of the resolved secondary position must have a short ending according to Kaluza's Law.[141] There are no exceptions in either text, so, Figure 15 only includes the calculations for resolved primary and secondary positions and their distribution to the a-verse.

The implementation of resolution in the *Riddles* is not very different from that in *Beowulf*, despite the fact that in type A2a, compound forms in the first foot are involved. The resolution on the first primary position of type A2a has the same percentages in *Beowulf* and in the *Riddles*.

The percentage for resolution on the second primary position is slightly lower in the *Riddles*, but the calculated value is below statistical significance. The results show that in type A2a the compounds in the first foot and the simplexes in the first foot with a resolvable sequence have almost the same distribution in the two texts and that the differences do not show any metrical deviation.

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[139] See Table 32 on page 60.

[140] See calculation in last row of Table 32 on page 60.

[141] See "Resolution" on page 60.

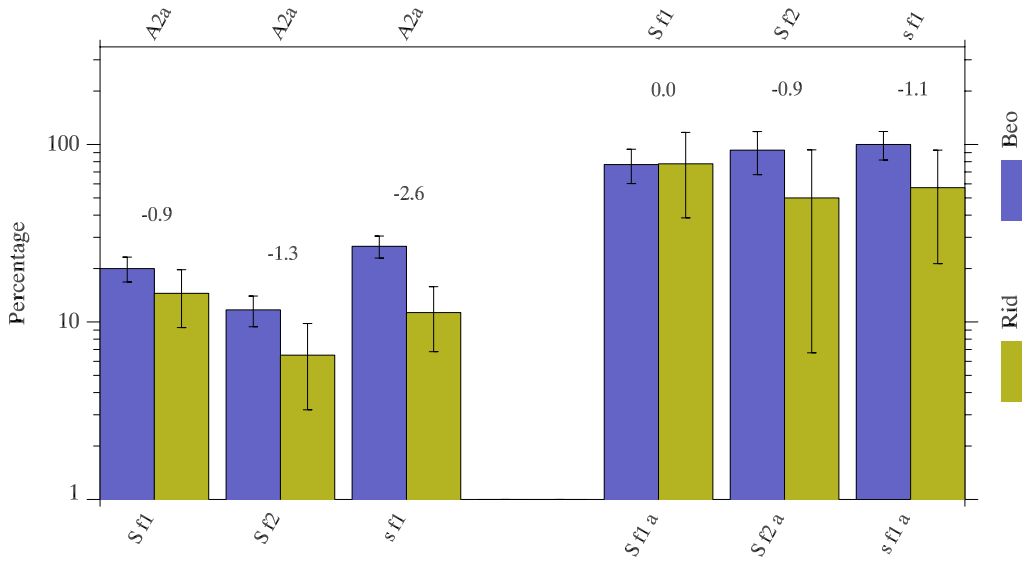

Figure 15: Resolution in A2a and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[142]

Resolution of the secondary stress occurs significantly less often in the *Riddles* than in *Beowulf*. As already mentioned above, all of the resolved sequences on the secondary position have a second syllable with a short vocalic ending in both texts as expected according to Kaluza's Law.[143] In *Beowulf*, 4 verses have both stressed positions of the first foot resolved. Three of them are exceptional with regard to the constraint of Theravada's finding, that poetic compounds with the syllabic sequence Sx-Sx are avoided in *Beowulf*.[144] The fourth has a word group with two resolved simplexes on the compound foot and is not subject to the constraint. The larger percentage of resolved second constituents in *Beowulf* must probably be assigned to the larger number of the so-called *gūð*-type compounds with a resolved second constituent that are not subject to Theravada's restriction compared with the *beado*-types that have a resolved first constituent and may not be combined with an other resolvable sequence as a second constituent. In any case, the *Riddle* text obviously contains fewer compound forms with a short-stemmed second constituent. This must be accepted as the explanation for the lower number of resolved sequences on this particular position, since the choice of the linguistic material is instrumental in implementing resolution. Terasawa's constraint is not contravened in any of the examples in the *Riddles*.

With regard to the percentages of resolved sequences on the three positions, the distribution is not the same in *Beowulf*. The percentage of resolved positions on the second primary position is significantly lower than both resolved positions in the first foot, which have statistically equal distribution. So, resolved sequences are preferably

[142] See Table 33 on page 60.

[143] Suzuki (1996: 208) lists and describes the endings for A2a in *Beowulf*. All of the endings are considered short as in Fulk's (1992: 419-425) list. See also Bliss (1958: §34) and Fulk's (1992: 159f.) discussion and addition to Bliss's list.

[144] Terasawa explains the occurrence of Beo 236a, 1065a, 2108a with pseudo-epenthesis. See "Metrical Restrictions on Compound Elements" on page 60 and Terasawa's (1989: 121) listing of actual exceptions to the constraint.

placed in the first foot in *Beowulf*. Not so in the *Riddles*. All three of the resolved positions show comparable percentages in the *Riddles*, and no preference can be made out.

The percentage of a-verses is high in both texts and the difference between them is non-significant. Both poets seem to account for the added complexity by preferring the a-verse for resolvable sequences.

3.1.5.5. Suspended Resolution in Type A2a

Among the A2a types, there is a specific group that has an unresolved primary position in the second foot

Beo 64b	*herespēd gyfen* 'prosperity in battle given'	$\underline{S^{A}s/Sx}$	A2a

The type seems to be the preferred location for an unresolved sequence on a primary position in *Beowulf*.[145] Figure 16 shows the percentages for the verses with suspended resolution in A2a.

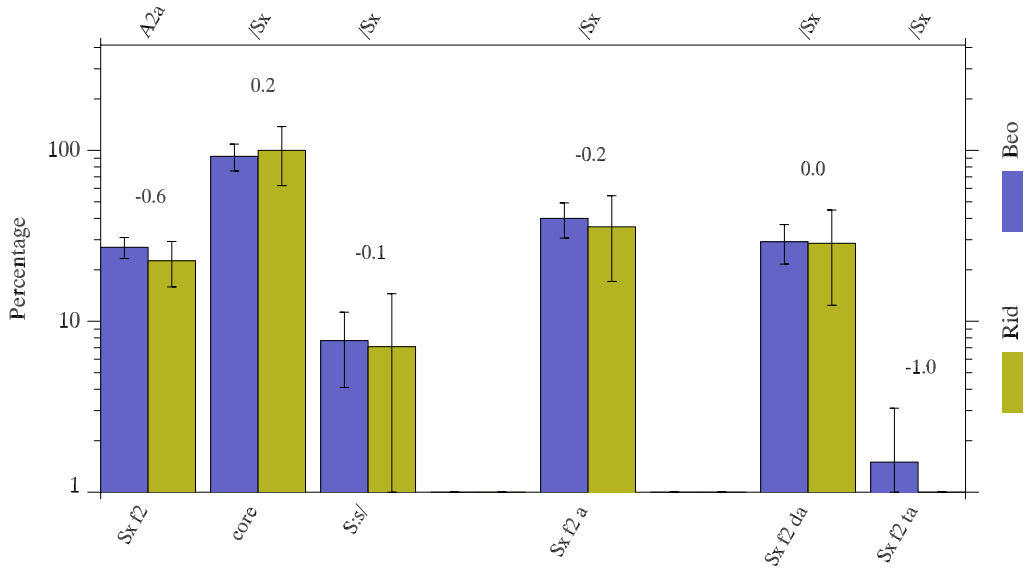

Figure 16: Suspended resolution in A2a, its distribution to the a-verse, and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[146]

Even for this complex and rare group the statistics do not deviate with any significance. The frequency of the A2a type with an unresolved primary position in the first foot is equal in both texts with 27% of all the A2a types in *Beowulf* and 23% in the *Riddles*.

The so-called core verses, i.e. the plain Ss/Sx verses, show very high percentages, 92% in *Beowulf* and 100% in the *Riddles*. There are no examples with extrametrical syllables and only very few with a word group in the first foot, 5 or 7.7% in *Beowulf* and

[145] The few A1 types with the same second foot are not unanimously accepted as metrical by metrists. See "Suspended Resolution in Type A1" on page 35.

[146] See Table 34 on page 60.

1 or 7.1% in the *Riddles*. The identical percentages are again a sign of careful verse craft in this particular variant of type A2a in the *Riddles*.

The distribution to the a-verse is statistically equal with 40% in *Beowulf* and 36% in the *Riddles*. The percentage is considerably lower for this variant than for the total number of A2a types, since this particular variant is attracted to the b-verse because of its unresolved sequence on its most natural position at the end of the verse. The *Riddle* text shows an even lower number of a-verses. Although not a significant statistical value, it might still be a sign of strict adherence to the preference observed in *Beowulf*.[147]

Double alliteration is also equally distributed in both texts with almost 30% of all the Ss/Sx verses. The one A2a type with triple alliteration in *Beowulf* belongs to this group here with suspended resolution in the first foot.

In this particular variant of the A2a type, there is not one significant deviation in the above evaluations and it seems that both poets compose and distribute it in the same way. Considering the textual difference between *Beowulf* and the *Riddles*, between a poem of epic dimensions in bulk and source material and a collection of short poems with a wide variety of topics, the equal results of the evaluations confirm the general validity of the metrical constraints in question and the closeness of metrical composition in the two texts of the A2a type with an unresolved second primary position.

An investigation of the quantity of the second syllable of the resolvable sequence is of interest here with regard to Kaluza's Law. The short primary position in the second foot of type A2a may stand unresolved according to Kaluza's Law, as the preceding secondary stress may be considered stronger due to its subordination under one weak node of the strong branch in the tree diagram of the type as opposed to the short primary stress under a weak node of the weak branch.[148] If type A2a is considered subject to Kaluza's Law, the resolvable sequences should have a long second syllable. The number of exceptions is debated, since the quantity of the second syllable is not interpreted in the same fashion in relevant discussions.[149] The calculations in Figure 17 therefore include both interpretations in order to allow for a more precise evaluation of the possible differences.

The figure illustrates clearly that the distribution of the required long endings under application of Kaluza's Law and the exceptional short endings is statistically equal in both texts. There are no differences between *Beowulf* and the *Riddles* in either of the calculations with the higher or the lower number of exceptions according to the different interpretation of their quantity. In type A2a, Kaluza's Law is observed closely in both texts with only a few statistically non-significant exceptions.

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[147] See also "Unresolved Primary Positions" on page 60.

[148] Russom (1987a: 80), Fulk (1992: 239 f.n. 4) for the notion of a "continuously descending metrical contour" in support of the applicability of Kaluza's Law to type A2a.

[149] In *Beowulf*, there are 18 long vocalic endings and 46 consonantal endings (long) and 1 short one in Beo 1914b: wa-stem n.sg.:*geara* according to Suzuki's (1996: 218) interpretation. The two additional examples Beo 2241b, 1230b of Suzuki's list are scanned as Da types in Russom's database as also suggested as a possibility by Suzuki. Fulk (1992: 423) interprets the ending in Beo 1914b also as short, but adds five short endings for *ðone* in five verses. In the *Riddles*, there is one short ending in Rid 74.1b, if *cwene* 'woman' is indeed a short stemmed n.sg i-stem (Pinsker and Ziegler 1985: 309; Trautmann 1915: 151; Williamson 1977: 416)}and not *cwēn* 'woman, queen', which would eliminate the resolvable sequence. Two more endings are inconclusive according to Fulk's (1992:) judgment, the two verb forms *bere* and *brece* in Rid 15.3a and 73.26a, both pres.ind.1sg. They are said to be of "disputed origin".

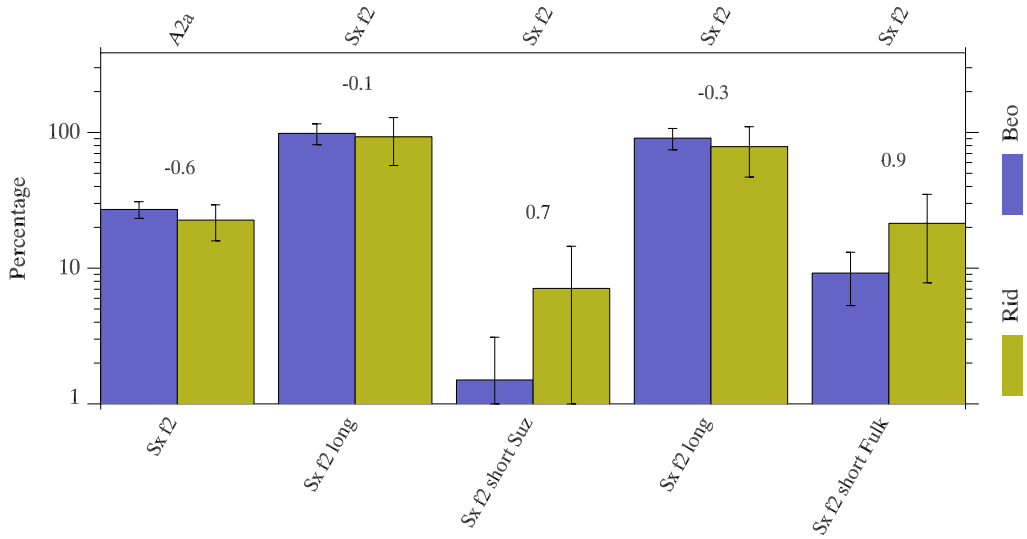

Figure 17: Distribution of long and short endings in A2a with suspended resolution. Two calculations are included with the variant definitions of long and short endings according to Fulk and Suzuki. Normalization labeled in the top row. Percentages in logarithmic array.[150]

3.1.5.6. Summary for Type A2a

The type occurs significantly less frequently in the *Riddles* than in *Beowulf*. The vast majority of A2a verses represents the core type: only very small numbers of verses have internal extrametrical syllables or word groups in both texts. Anacrusis does not occur at all. The various syntactic structures of the A2a verses show a significant difference only with regard to extrametrical syllables. The incorporation of additional syllables before the second foot is very rare in *Beowulf*. The *Riddles* show a significantly higher percentage, but still a very low number of such verses. The use of a word group in the first foot instead of the normal compound form shows statistically the same percentages in both texts with a tentatively higher percentage for word groups in the *Riddles*. The *Beowulf* poet clearly prefers the a-verse for the A2a type. In the *Riddles*, A2a verses are more evenly distributed to the a- and the b-verse with a slight tendency toward the a-verse. Double alliteration is clearly preferred by the *Beowulf* poet for core verses as well as for verses with mismatched underlying linguistic material, whereas the *Riddle* poet uses more A2a verses with single than with double alliteration.

The results for resolution do not yield any metrical deviations. The similarities and differences are due to the choice of linguistic material without implication on the accuracy of metrical composition.

The same holds true for the A2a verses with suspended resolution. There are no statistical differences, neither for the linguistic material of these types nor for their percentages with regard to Kaluza's Law. So, with the exception of the preferred distribution to the a-verse and the use of double alliteration in *Beowulf*, which does not

[150] See Table 35 on page 60.

apply in the *Riddles*, the A2a type is implemented in the *Riddles* mostly as core type with very few extrametrical syllables and word groups, just as in *Beowulf*. The results attest to the careful handling of this type in the *Riddles*.

3.1.6. Type A2b

Type A2b occurs with less than 2% of readable verses in the two texts. It holds position 10 in *Beowulf* and in the *Riddles*.[151] This variant of the A2 types has the compound in the second foot as in

Beo 65a	*wīges weorðmynd* 'glory of combat'	S^Ax/S^As	A2b

Unlike type A2a, the A2b type is found with quite a number of verses with extrametrical syllables, especially internal ones. Word groups are equally used in both feet, more frequently though in the first foot. The type is much rarer than the A2a type. It occurs with about half the tokens of the number of A2a types, with 106 examples or 1.7% in *Beowulf* and with 32 examples or 1.3% in the *Riddles*. The deviation is not significant; it merely indicates a tendency for a slightly less frequent use in the *Riddles* than in *Beowulf*.

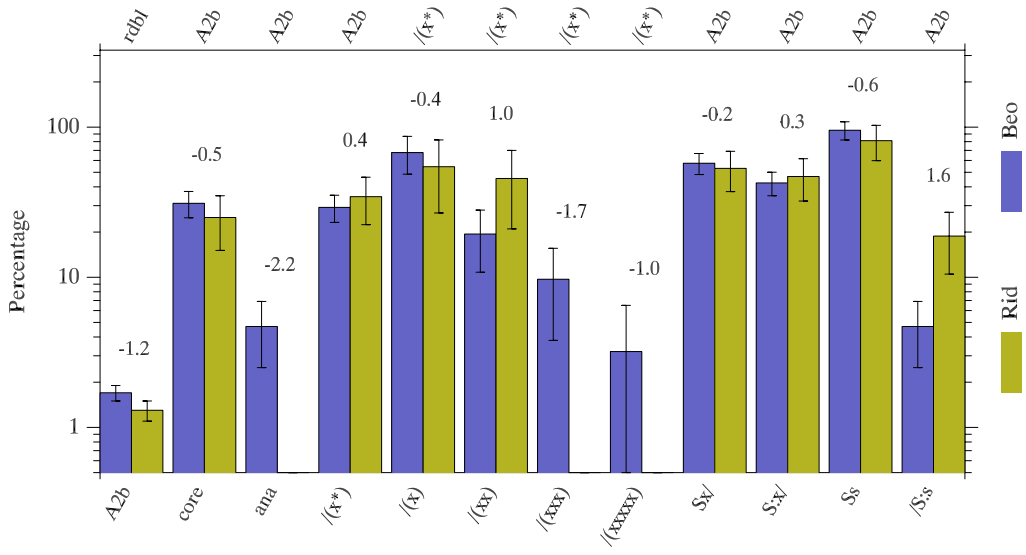

Figure 18: Linguistic material in A2b. Normalization labeled in the top row. Percentages in logarithmic array.[152]

Figure 18 shows significant or almost significant deviations with extrametrical syllables. Anacrusis is not found at all with the A2b type in the *Riddles* and only 5 verses or 4.7% have anacrusis in *Beowulf*.

The percentage for verses with internal extrametrical syllables is statistically equal, roughly 30% in both texts. If the distribution of the verses with specific numbers of additional syllables is considered, there is only a significant deviation with strings of 3

[151] See Figure 72 on page 60 and Table 9 on page 60.
[152] See Table 36 on page 60.

and 5 syllables. The result here is very similar to the evaluation of syllables in anacrusis; there are no examples in the *Riddles*, with 3 or with 5 syllables and only 3 with 3 syllables and 1 with 5 in *Beowulf*.

It goes without saying that the exceedingly small numbers involved here cannot in any case be used as an indication that the *Riddle* poet would never use an A2b type with anacrusis or a verse with 3 or five syllables between the two feet. The use of anacrustic verses in *Beowulf* shows the exploitation of rare but acceptable variants, a possibility that is not practiced to the same extent in the variants with extrametrical syllables in the *Riddles*.

The number of verses with word groups in the first foot show a similar distribution in the two texts with over 40%. Word groups in the second foot, usually occupied by a compound, are far less frequent. In *Beowulf*, only 4.7% have a word group. With 18.8% the *Riddles* have more word groups, but the percentage only shows a tendency of a more frequent use, rather than a significant statistical value.

Figure 19 shows the percentages for the variant forms in the a-verse as well as those for verses with double alliteration.

Most of the A2b types occur in the a-verse in the two texts, 92.5% in *Beowulf* and 81.3% in the *Riddles*. The distribution is statistically equal.

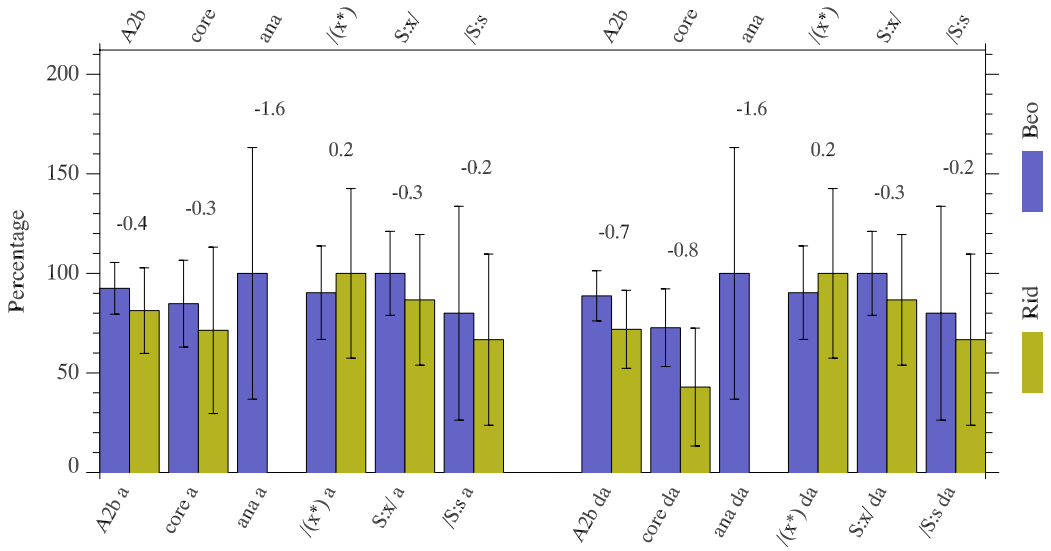

Figure 19: Distribution of A2b and its variants to the a-verse and double alliteration. Normalization labeled in the top row. Percentages in linear array.[153]

The result for A2b verses with double alliteration is equally distributed as well. 88.7% of the A2b types have double alliteration in *Beowulf* and 71.9% in the *Riddles*. It should be noted that the great majority of verses with extrametrical syllables or word groups are in the a-verse in both texts. This is a sign of the variants' complexity, which implies the composition as a-verses. The *Riddle* poet adheres to this preference observed in *Beowulf*.

[153] See Table 37 on page 60.

3.1.6.1. Resolution in Type A2b

In the calculations for the resolved sequences in type A2b, the two texts show differences. Figure 20 shows the percentages for resolved sequences on the three stressed positions of type A2b and their distribution to the a-verse.

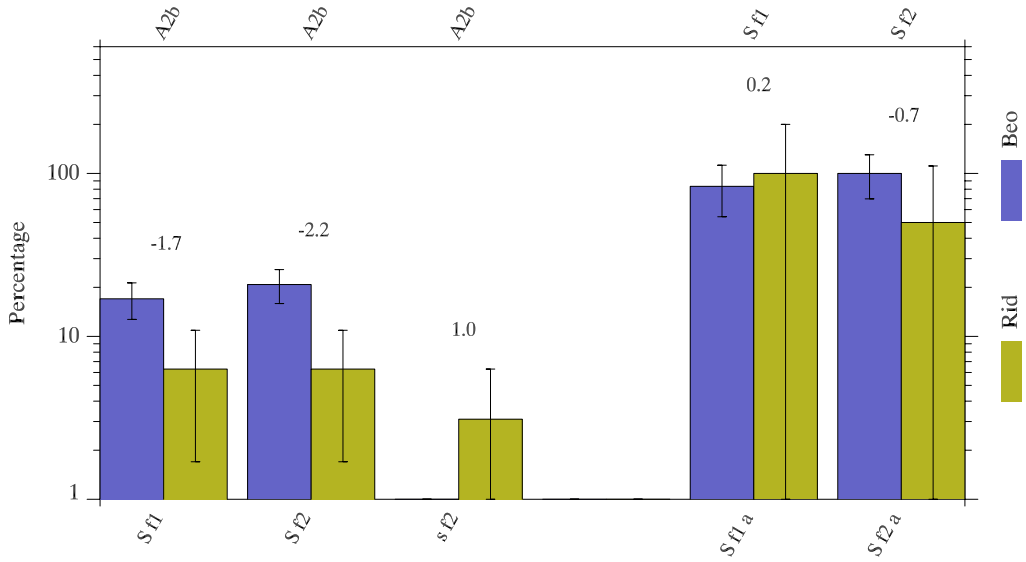

Figure 20: Resolution in A2b and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array. There are no resolved secondary positions in A2b in *Beowulf*.[154]

The results for the first resolved primary position shows quite a difference in percentages between *Beowulf* and the *Riddles*. It is not significant, but it shows a strong tendency toward significance. The resolved primary position in the second foot also shows a discrepancy and in this case it is significant. The *Riddle* text has the same percentage of resolved sequences on this position as on the first primary position, but in *Beowulf*, the percentage is higher. And this increase accounts for the significant difference between the two results. The lower number of compounds in the *Riddles* is probably responsible for the difference, since about half of these positions are occupied by the short-stemmed first constituent of a compound in *Beowulf*. Since the choice of the linguistic material seems to be responsible for the discrepancy, the difference does not touch upon the quality of the metrical composition of the *Riddles*. The distribution between the two primary positions is statistically equal in both texts and does not show a preference for either position.

There are no resolved sequences on the secondary position in the second foot of type A2b in *Beowulf* and only one in the *Riddles*. The discrepancy is not statistically significant. As with other results for very small numbers, the absence of a resolved secondary position in the second foot of the type may well be a coincidence. A much larger corpus of the poet's writing might contain this variant.

[154] See Table 38 on page 60.

The A2b types with resolution show a very high percentage of a-verses for both resolved primary positions in *Beowulf*. In the *Riddles*, the share of a-verses is differently distributed between the two positions. But both results are statistically insignificant.

3.1.6.2. Summary for Type A2b

The comparison of the A2b types in *Beowulf* and in the *Riddles* yields statistically significant results only in verses with anacrusis and resolution on the second primary position. For anacrusis, the number is so small that interpretation is difficult.

Where resolution is concerned, the difference is not due to a metrical deviation. It is a matter of lexical choice. So, on the whole, the *Riddle* poet implements type A2b in quite the same metrical fashion as the *Beowulf* poet does.

3.1.7. Type A2ab

Type A2ab is the rarest among the A2 verses. It has a ranking of 12 in *Beowulf* and in the *Riddles* on the list of type frequencies.[155] This A2 variant has four stressed positions. It is the heaviest type of all with a short compound in each foot. An example from *Beowulf* is

Beo 193a	*nȳdwracu nīþgrim* 'distress [so] grim'	$S^{A}s/S^{A}s$	A2ab

The number of A2ab type verses is so small that the comparison of percentages becomes precarious. A few remarks may still be of interest. Figure 21 shows almost equal numbers for the linguistic material in A2ab.

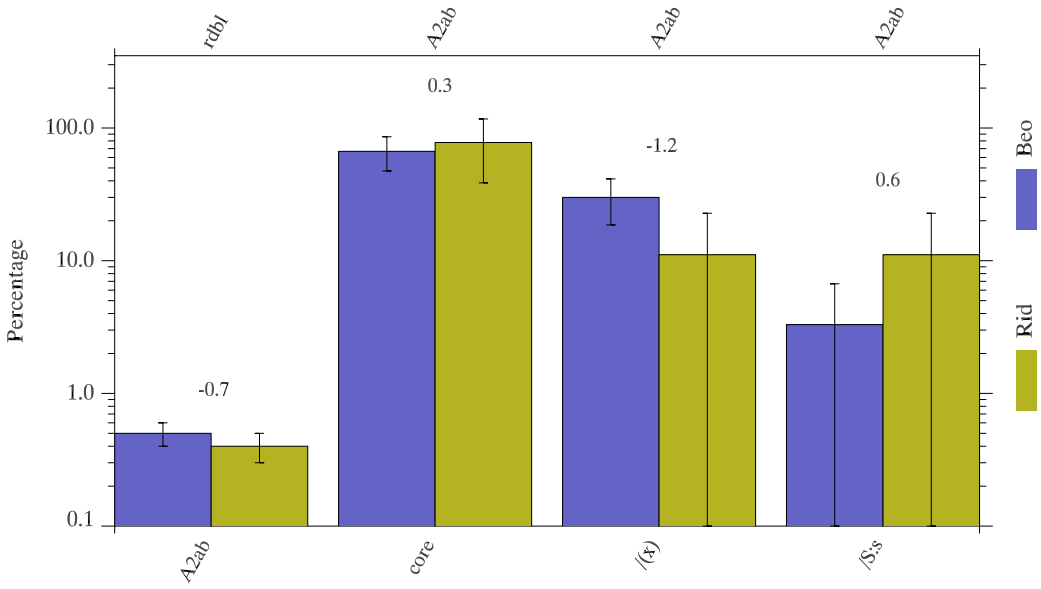

Figure 21: Linguistic material in A2ab. Normalization labeled in the top row. Percentages in logarithmic array.[156]

The type does not deviate from that in *Beowulf*, neither in number nor in the application of metrical features in the *Riddles*. This seems odd in view of the hypothesis that we find

[155] See Figure 73 on page 60 and Table 9 on page 60.

[156] See Table 39 on page 60.

fewer complex verses in the *Riddles* than in *Beowulf*. Moreover, the type is frequently used in *Beowulf* for proper name compounds that do not occur at all in the *Riddles*. It should therefore occur more frequently in *Beowulf* as the location for a compound with a proper name with a lexicalized second constituent. The fact that compound forms with a lexicalized root syllable have a significantly greater percentage in the *Riddles* than in *Beowulf* might serve as an explanation.[157] It probably compensates the number of compound proper names in this particular type in *Beowulf*.
Figure 22 shows the distribution to the a-verse and double alliteration.

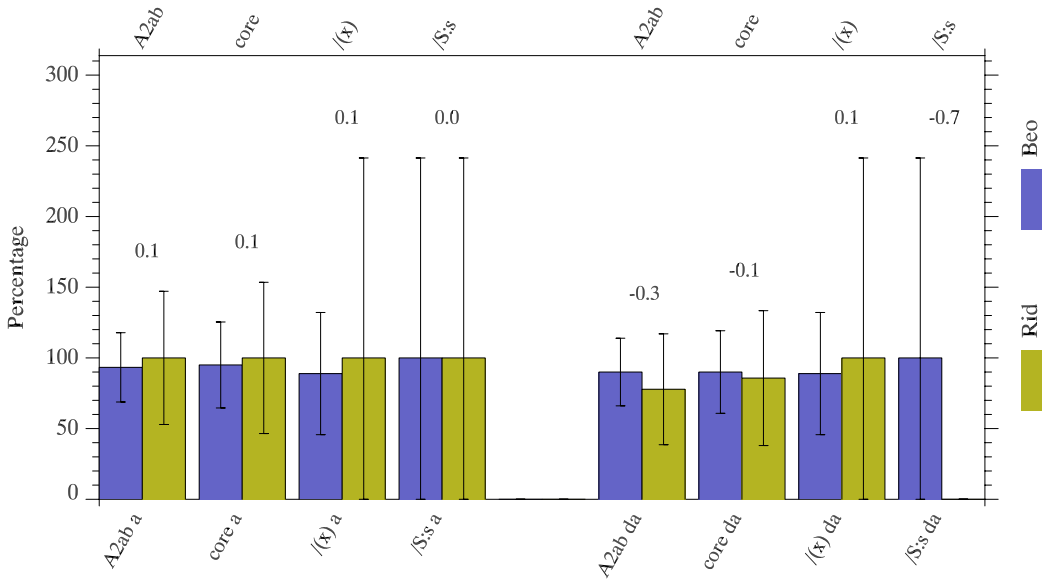

Figure 22: , Distribution to the a-verse and double alliteration in A2ab. Normalization labeled in the top row. Percentages in linear array.[158]

In both texts, the majority of A2ab verses is composed in the a-verse and with double alliteration. That at least hints at the complexity of the type that is also acknowledged in the *Riddles*. None of the results show a significant deviation.
Very few verses in A2ab have resolution. Figure 23 illustrates the percentages. The calculations show equal results in every instance. The resolvable sequences on the s position in the first foot have short second syllables in *Beowulf*. The one verse in the *Riddles* has a consonantal ending to this second syllable and does not conform to Kaluza's Law.[159] There are no resolvable sequences on the secondary position in the second foot of the verse in either text.

[157] See Figure 69 on page 60.
[158] See Table 39 on page 60.
[159] See Rid 72.12a.

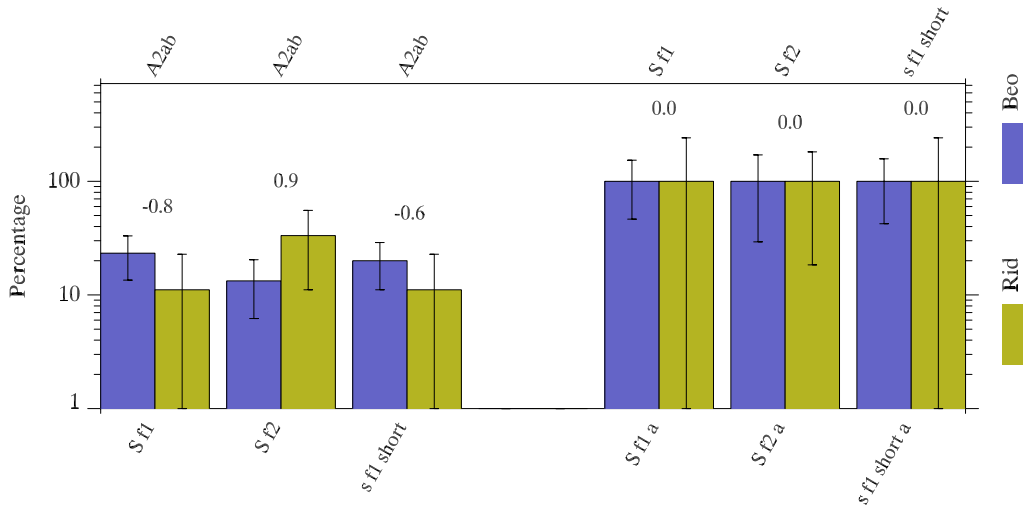

Figure 23: Resolution in A2ab and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[160]

3.1.8. Type 3A

Type 3A resembles the standard verse A1 in the normative weight of two stressed positions and a trochaic word in the second foot. The first foot has the pattern of a dactylic word instead of the trochaic one in A1. It is therefore considered a long verse, deviating in length form the standard four metrical positions. The type occurs with a word group on the dactylic foot or occasionally a dactylic simplex. The example below shows a verse with the most frequent pattern of underlying linguistic material and with double alliteration

Beo 8a	*wēox under wolcnum* 'grew under [the] sky'	S^A:xx/S^Ax	3A

The type shows a higher percentage in the *Riddles*. With 1.2% in *Beowulf* and 1.9% in the *Riddles*, it belongs to the group of verses with a frequency below 1%. In the list of frequencies it holds position 9, whereas in *Beowulf* only position 11.[161] The statistical deviation just about reaches significance. The various percentages of its structural features are represented in Figure 24.

None of the results are statistically significant with regard to the linguistic material. The type does occur with anacrusis, but has only one a-verse in each text with one syllable in anacrusis.

The number of verses with internal extrametrical syllables and the indication of a tendency toward a more frequent use with a significance of 1.5 may explain a certain

[160] See Table 40 on page 60.
[161] See Figure 72 on page 60, Figure 73 on page 60 and Table 11 on page 60.

preference for variants with extrametrical syllables that is also seen in other types in the *Riddles*.[162]

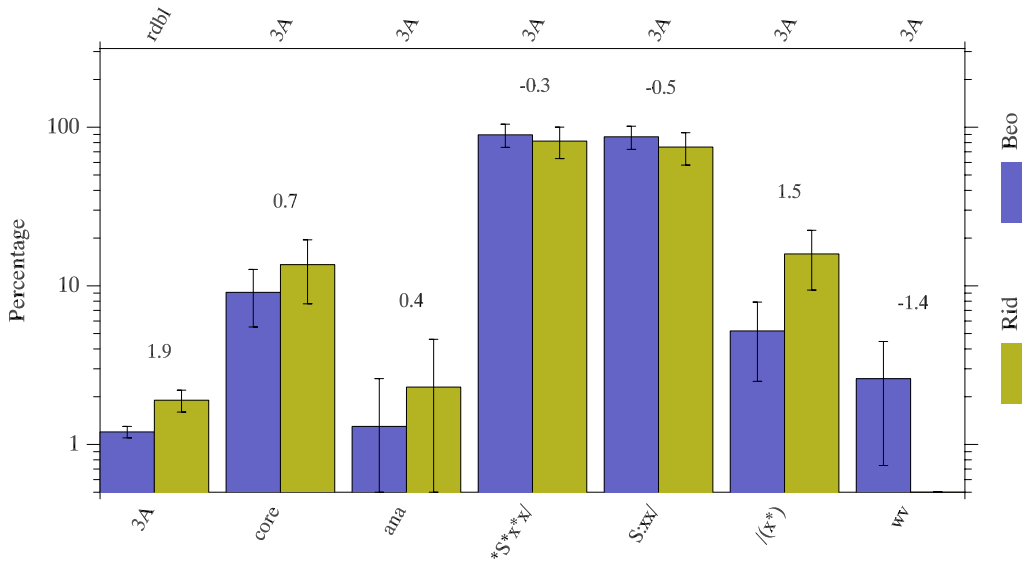

Figure 24: Linguistic Material in 3A Normalization labeled in the top row. Percentages in logarithmic array.[163]

Word groups occur in the first foot, the majority of them as in the example with a stressed monosyllable and a disyllabic unstressed word in the first foot.[164]

Whole-verse compounds do not occur in the *Riddles* and occur very rarely in *Beowulf*, with only 2 tokens among 77 or 2.6% of all the 3A types.

Figure 25 on page 57 shows the distribution to the a-verse and double alliteration in 3A.

The percentages of a-verses is statistically equal. 71.4% of the 3A types in *Beowulf* and 61.4% in the *Riddles* occur in the a-verse.

The majority of them have double alliteration with 70.1% in *Beowulf* and not quite half of them, namely 47.7%, in the *Riddles*. The difference, however, is not statistically significant.

[162] See "Accommodation of Additional Unstressed Syllables" on page 60.

[163] See Table 41 on page 60.

[164] See "Mismatched Foot Patterns" on page 60.

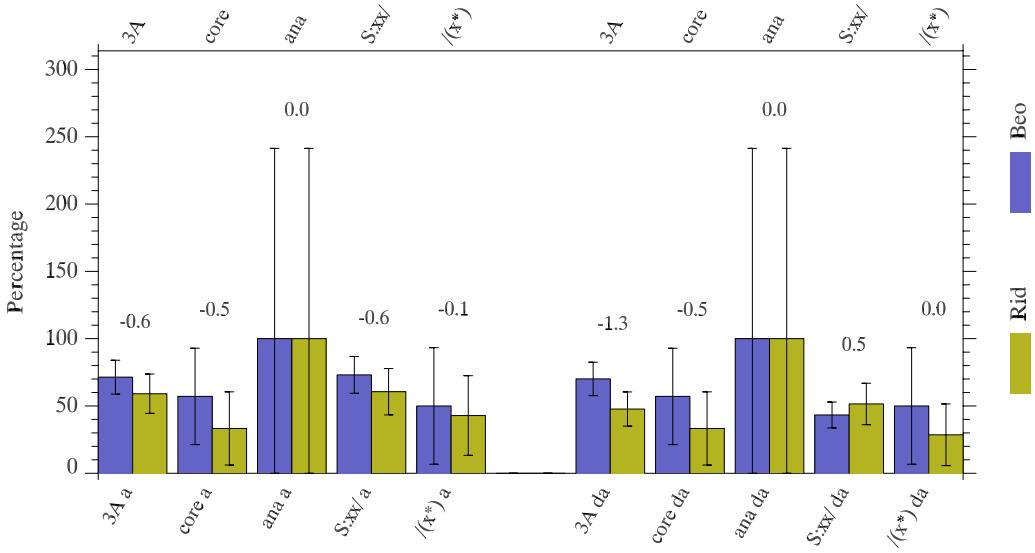

Figure 25: Distribution to the a-verse and double alliteration in 3A. Normalization labeled in the top row. Percentages in linear array.[165]

3.1.8.1. Resolution in Type 3A

The percentages for resolution on the two primary positions in type 3A are about the same as in A1 for *Beowulf* but not for the *Riddles*.[166] Figure 26 illustrates the values for the two positions and the shares in the a-verse of the pertaining examples.

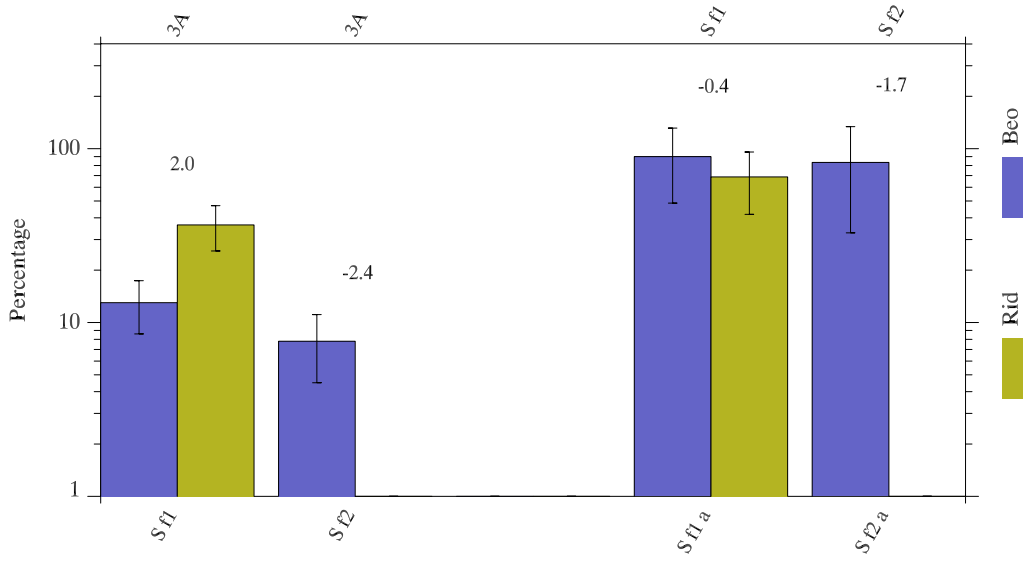

Figure 26: Resolution in 3A and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[167]

[165] See Table 41 on page 60.
[166] See Figure 9 on page 35.

Resolved sequences on the first primary position occur significantly more often in the *Riddles* than in *Beowulf*. In both texts, the position is occupied by a short-stemmed disyllable and followed by a disyllabic unstressed word, which is the most frequent word group in the first foot.[168]

The reason for the discrepancy is difficult to assess. The difference must be a matter of syntactic structure and the choice of lexical items, rather than a metrical difference. The type is more frequent in the *Riddles* and shows higher percentages in every variant form with extrametrical syllables. Its higher number of verses may well account for the higher number of resolutions on its first primary position, because of the versatility of the first foot and the entire verse.

In contrast to the more frequent resolution on the first primary position, there is not one resolved primary position in the first foot in the *Riddles*. The difference is statistically significant. Since the percentage in *Beowulf* is very low, it may be argued that the *Riddle* poet avoided resolution on the second primary position even more rigorously than the *Beowulf* poet. In view of the rules and regulations of resolution, this might indicate that the preference of resolution on the strongest stress of the verse is acknowledged for 3A. The same results are found in the evaluation for A1, where the avoidance of a resolved primary stress in the first foot was even more pronounced in the *Riddles* than in *Beowulf*.[169]

There is one most peculiar verse in the *Riddles* with an unresolved sequence in the second foot, which is never found in type 3A in *Beowulf*.[170] Like all of the A1 types with an unresolved primary position in the first foot, the 3A verse has a second syllable of the resolvable sequence with a long ending in accord with Kaluza's Law. The calculation does not show any statistical discrepancy.[171] There is no statistical difference between the use of one such verse or none at all in a rather large group of compared verses. But the extremely rare occurrence in the *Riddles* and the total absence of such verses in *Beowulf* certainly indicates a severe restriction on the placement of an unresolved sequence in the first foot of a 3A verse. If we consider the very low number of A1 verses with an unresolved second foot in *Beowulf* and the significantly higher number of such verses in the *Riddles*, it appears that the *Riddle* poet does not avoid the placement of an unresolved primary position in the second foot of the A types of normal weight as carefully as the *Beowulf* poet.

The share of a-verses with a resolved first primary position is high in both texts. The percentages do not show a significant discrepancy.

To sum up, none of the linguistic features in type 3A show statistical variance in the two texts. The type is obviously composed in the same way in the *Riddles* as in *Beowulf*. Its higher frequency in the *Riddles* may be attributed to the fact that the type belongs to the group that accommodates a number of unstressed syllables, especially disyllabic unstressed words in the word group of the first foot, and also dactylic words.[172] The

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[167] See Table 42.on page 60.

[168] See Figure 24 on page 56.

[169] See Figure 9 on page 35.

[170] Rid 23.1a. See Table 42 on page 60 for the calculation of suspended resolution in the two texts.

[171] See Table 42 on page 60.

[172] See "Frequency of All Types" on page 60.

tendency seems to be prominent in other A types and may be connected with the change in the language toward the less obvious possibility of deleting grammatical words. The results for resolution do not imply a metrical deviation in the *Riddles*, either. On the contrary, resolution is found on the preferred position on the first primary position of the verse according to the findings in *Beowulf*.

3.1.9. Type 3Ab

Type 3Ab is a heavy type. It belongs to the group of extremely low frequency. There are only 17 verses or 0.3% in *Beowulf* and 3 verses or 0.1% in the *Riddles*. It holds position 13 in the list of frequency for both texts.[173] The type has a dactylic word or a word group in the first foot and a disyllabic compound in the second as in

Beo 922a	*tryddode tīrfæst* 'stepped glorious'	$S^{A}xx/S^{A}s$	3Ab

It deviates from normative weight and length. Figure 27 shows that the few examples of 3Ab verses have statistically the same results in all the variants with the exception of verses with a word group in the first foot, which does not occur in the *Riddles* at all. Here again, this does not mean that the *Riddle* poet would never use a word group on this position, but the limited size of the corpus may account for the coincidence.

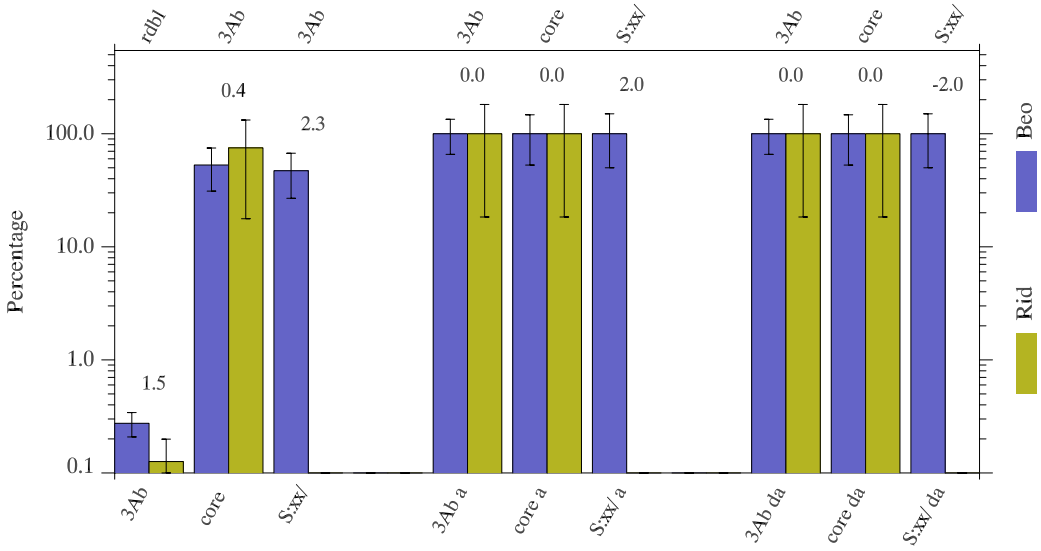

Figure 27: Linguistic material in 3Ab, its distribution to the a-verse, and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[174]

The calculations for the resolution in type 3Ab are not included in the figure. There are too few verses to draw any kind of conclusion with only one or two examples per group. The values may be viewed in Table 44 on page 201. It should be noted, however, that there are two 3Ab verses in *Beowulf* with a resolved s position in the second foot and one

[173] See Figure 73 on page 60 and Table 9 on page 60.
[174] See Table 43 on page 60.

of them with a long ending in the second syllable of the resolvable sequence.[175] The verse must be considered irregular with regard to Kaluza's Law, but it is considered an acceptable exception to the rule. In the *Riddles*, there is one verse with a resolved secondary position. It has a short second syllable of the resolved sequence and does therefore not contravene Kaluza's Law.[176]

3.1.10. Type A3

The A3 type ranks on position 6 in *Beowulf* and position 5 in the *Riddles* in the list of frequencies.[177] It consists of a light foot and a standard foot. It has only one primary position in the second foot. It deviates from the standard A1 type in weight, but not in length, since the core verse xx/Sx has four positions. It may accommodate a string of unstressed syllables before the light foot, and in fact, most of the A3 types do occur with a string. The second foot is always a trochaic word, never a word group in either text. A typical example is

Beo 22a	*þæt hine on ylde* 'that in his old age'	x:xx:x/S^{A}x	A3

The A3 type is easy to construct with its first light foot composed of function words and with only one primary position. In poems that are considered of late composition and metrically faulty, the ratio of A3 types is as high as 10% of the readable verses. Although the type occurs more frequently in the *Riddles* than in *Beowulf*, with 5.9% the percentage is well within the mainstream value of the poems that are judged metrically sound.[178].

3.1.10.1. Linguistic Material in Type A3

As mentioned above, the A3 type is more frequent in the *Riddles* than in *Beowulf*. In all the readable verses, there are 5.9% of A3 types in the *Riddles* and 4.7% in *Beowulf*. The difference is just statistically significant. The reason is probably the same as with a more frequent use of extrametrical syllables in other A types, namely the different linguistic material in a language with more function words and fewer compounds.
Figure 28 shows the percentages of the composition of the strings in type A3.

The vast majority of A3 verses occur with a string of unstressed syllables before the required two x positions of the light foot: 96.9% in *Beowulf* and 89.9% in the *Riddles*. The percentages of the two texts are statistically the same. The *Riddle* poet uses significantly more core verses than the *Beowulf* poet, i.e. verses with the minimal four metrical positions. The core verses are mostly occupied by two unstressed monosyllables in both texts. The distribution in both variants is statistically equal in the two texts, in the one with two monosyllables and in the one with a disyllable in the first foot.

[175] Beo 1426a: long syllable, 3173a: short.

[176] Rid 31.18a.

[177] See Figure 72 on page 60 and Table 11 on page 60.

[178] *Christ and Satan*: 10%, *Guthlac A*: 9.2%, *Boethius*: 8.9%. *Andreas*: 5.9%, *Elene*: 4.8%. Rough calculations were carried out with Russom's scansion of the poems on the website of Brown University (Russom n.y.). See also Russom (1987b: 571; 2002b: 251).

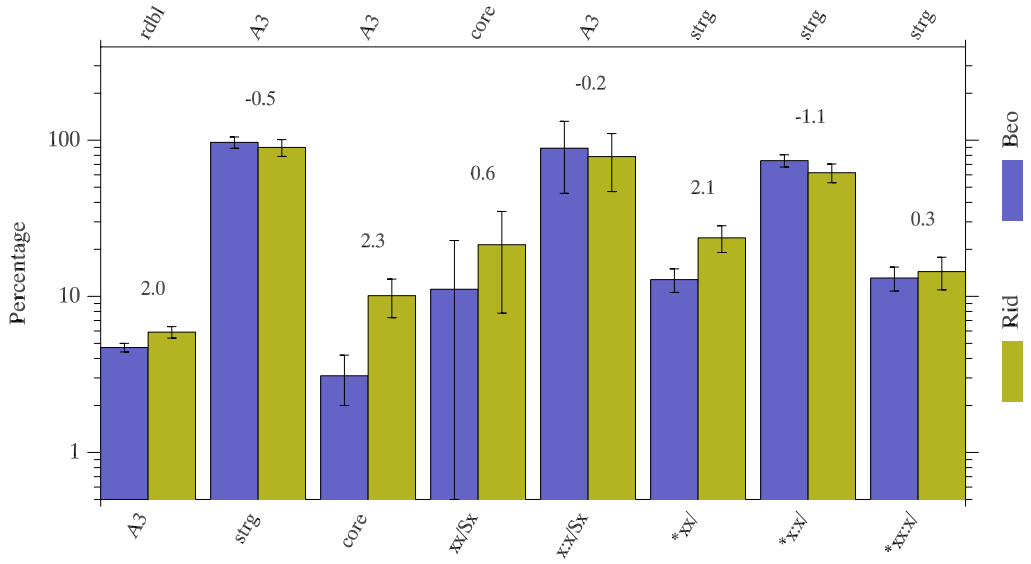

Figure 28: Linguistic material in A3. Normalization labeled in the top row. Percentages in logarithmic array.[179]

The strings of unstressed syllables before the light foot consist of 1 to 4 additional unstressed syllables in *Beowulf*. In the *Riddles*, there is one string of 5 additional syllables. The distribution of the five groups of strings show quite similar percentages with an exception in the group with 3 additional syllables. Here, the *Riddles* have fewer examples. The deviation is related to the greater number of core verses. The size of the groups according to the number of additional syllables is the same in both texts, the largest has 2 syllables, the second largest 1, the third 3, and the fourth 4 syllables. So, the deviations should probably be disregarded, since both poets basically show a preference for the same number of syllables before the actual light foot.

The structure of the light foot, i.e. the two unstressed syllables required for the minimum of four metrical positions in A3 takes all the possible forms with regard to the linguistic material:

xx/	a disyllable
x:x/	two monosyllables
xx:x/	the second syllable of a disyllable and a monosyllable

The distribution shows significant differences. Of all the A3 verses with additional unstressed syllables before the light foot in *Beowulf*, 37 or 12.8% have a disyllabic light foot, 33 or 23.7% in the *Riddles*, i.e. a disyllabic word in the light foot. The majority of A3 verses show the construction of the second form with two monosyllables, there are 214 or 74% in *Beowulf* and 86 or 61.9% in the *Riddles*. The percentages may be regarded as equal. The same holds true for the last form of structure, the combination xx:x/. The percentage in *Beowulf* is 13.1% and 14.4% in the *Riddles*. The structure of the light foot

[179] See Table 45 on page 60.

in the core verses shows a similar distribution. 8 out of 9 core verses in *Beowulf* and 11 out of 14 in the *Riddles* have a word group in the light foot. So, the most normal structure in both texts is the word group in the light foot for core verses as well as verses with an additional string of unstressed syllables.[180]

3.1.10.2. Distribution of Type A3 to the A- and the B-Verse

The type never occurs in the b-verse in *Beowulf*. The restriction to the a-verse is not observed in the *Riddles*. Figure 29 shows the percentages of a-verses of the variant A3 types.

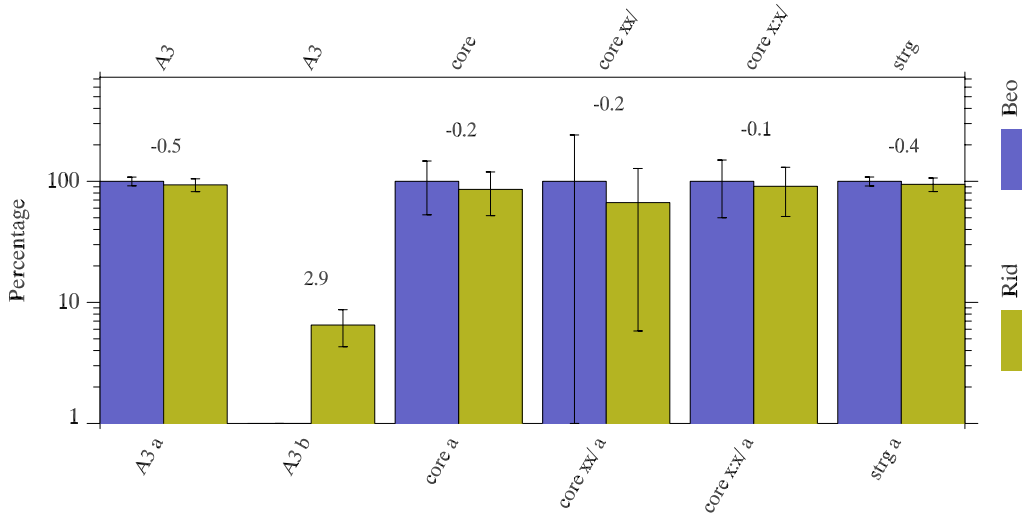

Figure 29: Distribution of A3 and its variants to the a- and the b-verse. Normalization labeled in the top row. Percentages in logarithmic array.[181]

In the *Riddles*, 6.5% of the A3 types are b-verses. This is certainly a significant difference. The placement of those verses is odd. The *Riddle* poet does not observe the restriction of composing A3 types in the a-verse as the *Beowulf* poet does. Both variant forms, core verses and verses with strings in the light foot occur as b-verses in the *Riddles*. The placement of A3 types in the b-verse in the *Riddles* may be related to a development observed in Old Norse poetry, where the loss of prefixes led to the elimination of anacrusis. Consequently, the exclusive placement of A3 types in the a-verse was relaxed and the overall complexity of the two-word A3 type was reduced, allowing the poet to compose it as a b-verse.[182] Another conjecture should be discussed here. In Old Norse, there are no hypermetrical verses, but we do find A3 types in the b-verse. It seems that the two are incompatible because of their metrical ambiguity: in *Beowulf*, the first two feet of the hypermetrical b-verses are identical to the A3 type xx/Sx without exception. If the verses with A3 types in the b-verse and those with

[180] See also "The Light Foot and its Strings of Unstressed Syllables" on page 60.
[181] See Table 47 on page 60.
[182] Russom (1998: 49ff.).

hypermetrical verses were not composed by the same poet, we could assume two different metrical compositions: either with hypermetrical verses or with A3 b-verses. However, all of the hypermetrical verses in the *Riddles* begin with the xx/Sx pattern and two of them are a-verses. A categorical restriction in the use of the metrically ambiguous overlap cannot be confirmed for the *Riddle* text. And it remains doubtful, whether the composition of A3 verses in *Beowulf* exclusively in the a-verse is related to the overlap problem with hypermetrical verses. The same holds true for Old Norse poetry. The lack of hypermetrical verses may have very different reasons.[183]

3.1.10.3. Resolution and Suspended Resolution in Type A3

Figure 30 includes the calculations for the A3 verses with resolution and suspension of resolution on the primary position.

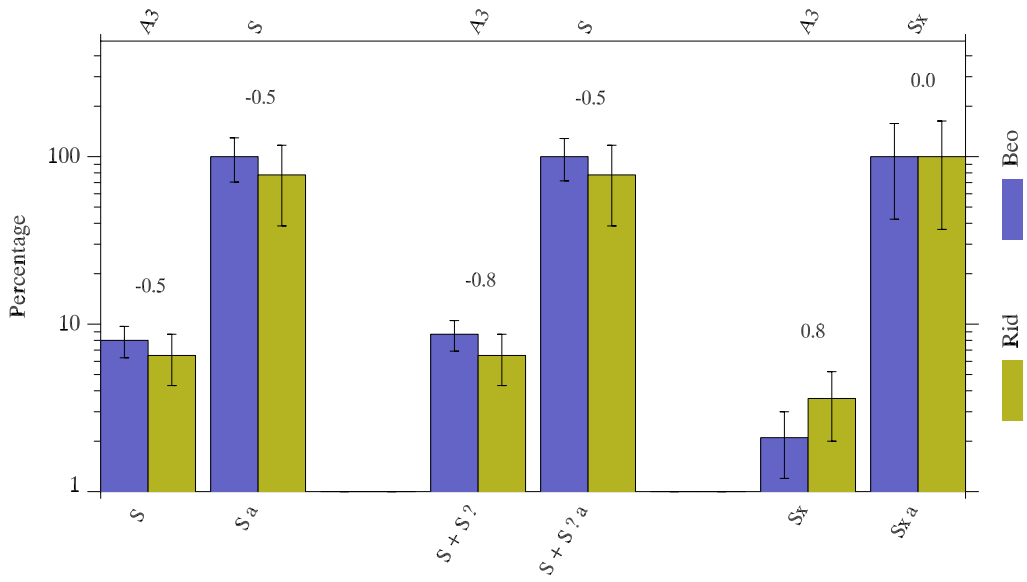

Figure 30: Resolution and suspended resolution in A3 and their distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[184]

The proportion of a-verses is of course 100% in *Beowulf*, since all of the A3 types are a-verses. In the *Riddles*, only 7 out of 9 A3 verses or 78% that have a resolved primary position are in the a-verse. The remaining 2 belong to the 6.5% of A3 b-verses in the *Riddles*.[185] Figure 30 above also gives the percentages for the two additional A3 verses that are not included in Russom's scansion of readable verses:

Beo 2036a	*on him gladiað* 'on them glisten'	x:x/$\underline{S}^{A}$x	A3

and

[183] See also "Hypermetrical Verses" on page 60.
[184] See Table 47 on page 60.
[185] See Figure 29 on page 60.

Beo 3107a	*ond þonne geferian* 'and then carry'	x:xx:x-/S^{A}x	A3

The A3 verses with an unresolved /Sx foot are rare in both texts. Despite the fact that resolution is obligatory on all the first primary positions in all other types, the A3 verse with an unresolved first primary position is not considered unmetrical.[186] It shows the same percentages in the two texts and is therefore accepted as a regular variant of A3 in either of them. The restriction of the A3 type to the a-verse is observed in the *Riddle*s for the variant with suspended resolution in the first foot unlike for the regular A3 types and those with a resolved primary position, where there are a handful of verses in the b-verse. All of the verses of this variant are in the a-verse.[187] With regard to Kaluza's Law, there is one verse that violates the law in the *Riddle*s, whereas in *Beowulf*, all of the examples have a long ending in the second syllable of the resolvable sequence.[188] The one exceptional verse in the *Riddle*s does not affect the statistical distribution: the discrepancy remains far below statistical significance.[189]

3.1.10.4. Summary for Type A3

In the *Riddles*, type A3 occurs more frequently with statistical significance, but with no over-use that could imply a metrical deficiency. It is a light type that accommodates strings of function words. Although the evaluation does not yield a significant deviation, a tendency may be seen in the *Riddles* to contain more A3 types as core verses than *Beowulf*. The number of unstressed syllables before the light foot occur in roughly the same percentages. The strings of additional syllables before the light foot are structured in a similar fashion, but with significantly deviating percentages of two of the three variants of light feet. The odd distribution to the a- and the b-verse of the A3 type and the more frequent use of the core A3 type may also indicate that the *Riddle* poet is less aware of certain restrictions and requirements or preferences in this type that are obviously observed in *Beowulf*. The A3 types in the b verse may also be related to a similar development as in Old Norse as discussed on page 62. Resolution is equally distributed in the two texts and the very few A3 types with an unresolved sequence on the primary position also have the same distribution in the *Riddles* as in *Beowulf*. They are all on the a-verse, fulfilling the restriction to the a-verse of A3 types in *Beowulf*.

3.1.11. Type A3b

The type belongs to the group of very rare verses. It holds position 12 in *Beowulf* and in the *Riddles* in the list of frequencies.[190] The light foot may have up to 4 extrametrical syllables. The second foot is filled with a short compound /Ss instead of a normative Sx foot in type A3. It therefore has normative weight, despite the first light foot. A typical example is

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[186] Sievers (1885a: 283, 289), Bliss (1958: §§67,73, type e1b-e: 124), Russom (1995: 150, 159: f.n. 19), Suzuki (1996: 90).

[187] See Figure 29 on page 60.

[188] Rid 71.6a has *gripe* on the /Sx position, the d.s of a masc. i-stem noun, which is short according to Fulk's (1992) list. Suzuki (1996) lists it among the resolved s position in the first foot of type A2a in *Beowulf* and concludes that it must be short in agreement with Kaluza's Law.

[189] See Table 47 on page 60.

[190] See Figure 73 on page 60 and Table 9 on page 60.

Beo 9a	*oð þæt him ǣghwylc*	xx:x/S^{A}s	A3b
	'until to him everyone'		

Figure 31 shows the relevant percentages.

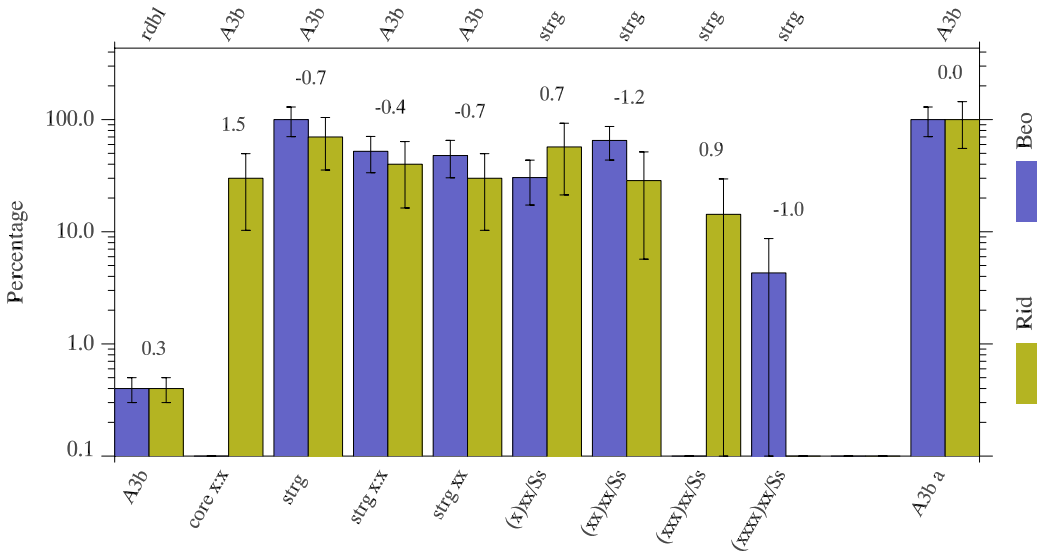

Figure 31: Linguistic material in A3b and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[191]

The type occurs with equal numbers in the two texts. The core verse never occurs in *Beowulf*. Unstressed syllables before the light foot seem to be required, even to a greater extent than in type A3, where core verses do occur in small numbers.[192] The statistical deviation of 1.5 might be explained by the extremely small number of A3b verses as a coincidental non-occurrence of core verses in *Beowulf*. The comparison does not show any significant deviations in the percentages of the A3b verse. The distribution of additional syllables is statistically equal.[193] In this type unlike in A3, both poets have all their A3b types in the a-verse.

Resolution is found with equal distribution on the S position of the compound foot. There are no resolvable sequences on the s position of the second foot in either text. The calculations for resolution are shown in Table 49 on page 202.[194]

3.1.12. Type B

Type B is the third most frequent type in both texts.[195] There are 832 type B verses or 13.4% in *Beowulf* and 325 or 13.7% in the *Riddles*. Type B has a light first foot and the second compound foot Sxs. The second foot may be occupied by a compound or a word group. The B type has normal weight and may be of normal length or long, depending on the composition of the first foot. There are three variant forms, a first foot with a

[191] See Table 48 on page 60.
[192] See "Type A3" on page 60 for the syllabic sequences of the string of unstressed syllables in the light foot.
[193] See also "The Light Foot and its Strings of Unstressed Syllables" on page 60.
[194] See also "Resolution" on page 60.
[195] See Figure 72 on page 60 and Table 9 on page 60.

monosyllabic or a disyllabic unstressed word and with no additional unstressed syllables (called monosyllabic or disyllabic core verse, disregarding the mismatch between the underlying linguistic material and the metrical type in the second foot) or with 1 to 4 extrametrical syllables preceding either light foot.[196] A typical B type is

Beo 29b	*swā hē selfa bæd*	x:x/S^{A}x:s	B
	'as he himself comanded'		

The verse pattern in the above example is indeed the most frequent of B types, despite the mismatch in the second foot, which is occupied by a word group and not by the compound Sxs. The variant occurs with 30% in *Beowulf* and with 36% in the *Riddles*. The various combinations of underlying linguistic material are discussed below.

3.1.12.1. Linguistic Material in Type B

Figure 32 shows the percentages of the various syntactic structures in the B types. The calculations for word groups on the compound foot are displayed in Figure 33 on page 68.

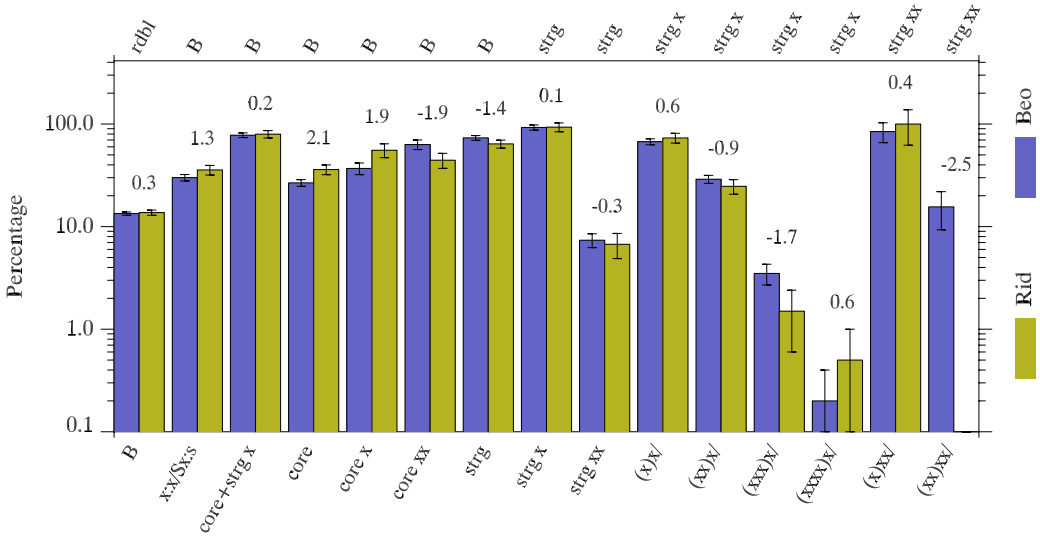

Figure 32: The light foot in B. Normalization labeled in the top row. Percentages in logarithmic array.[197]

The majority of the B types have a monosyllabic light foot, with or without extrametrical syllables, 77.8% in *Beowulf* and 79.9% in the *Riddles*. The comparison of the two percentages is not statistically significant. However, the percentages show discrepancies in the distribution of the core verses.[198]. The *Riddles* have considerably more such verses, namely 36% vs. 26.7% in *Beowulf*. The distribution of the monosyllabic and the

[196] See the definition and discussion of extrametrical syllables on page 12. Russom adopts another categorization of the C type with regard to the first foot in his electronic scansion. I have changed his distinction between the monosyllabic and the disyllabic light foot in the way described in footnote 40 on page 13.

[197] See Table 50 on page 60.

[198] Core verses in type B consist of a light first foot without additional unstressed syllables and with a compound or a word group in the first foot.

disyllabic light foot in the core verses is surprising. There are far more disyllabic core verses in *Beowulf* than monosyllabic ones, namely 63.1%. In the *Riddles,* the proportion is inverse, there are 55.6% monosyllabic core verses. Both percentages are very close to statistical significance with a calculated value of 1.9 for the monosyllabic core verse and -1.9 for the disyllabic one. The result must have something to do with the structure of the entire string of unstressed syllables in the first foot. The following discussion of the extrametrical syllables should give further information.

Type B verses with extrametrical syllables in the light foot are much more frequent than the core verses. In *Beowulf*, there are 73.3% and in the *Riddles* 64% of all the B types. The distribution tends toward statistical significance with a value of -1.4. Most of the variants with a string have a monosyllabic light foot with over 90% and equal distribution in both texts. The monosyllabic light foot with 1 additional syllable is the most frequent variant of the group with additional syllables, with 67.3% in *Beowulf* and 73.2% in the *Riddles*. The distribution is statistically equal. The group with 2 extrametrical syllables is quite small. In *Beowulf*, there are 29% and in the *Riddles* 24.7% with an insignificant statistical deviation. Two more groups occur, but with very small numbers, one with 3 additional syllables and one with 4. The percentages of the group with 3 additional syllables shows a discrepancy. There are fewer examples in the *Riddles* with an almost significant value of -1.7. The percentages for the disyllabic light foot with extrametrical syllables are very low. There are only 5.4% in *Beowulf* and 4.3% in the *Riddles*. The distribution here is statistically equal. However, there are no disyllabic light feet with 2 extrametrical syllables in the *Riddles*. All of the examples have only 1 unstressed syllable before the disyllabic light foot. The discrepancy shows a statistical significance of -2.5. The underlying language material shows differences in the two texts. In order to clarify the discrepancy and to find a possible explanation for it, the topic of strings of unstressed syllables in the light foot of all types concerned is treated in the comparison of all types.[199]

The second foot of the B type has a compound pattern Sxs. However, only a small percentage of B types show the foot filled with a compound word: 8.4% in *Beowulf* and 6.2% in the *Riddles*. The results do not show a significant deviation. The vast majority of the B verses in *Beowulf* have a word group in the compound foot Sxs. They show three different word groups listed in the following order of frequency:

Sx:s	a trochaic and an monosyllabic word
S:x-s	a monosyllabic word and a prefixed verb (with very few exceptions)
S:x:s	three monosyllables

The same three variants are found in the *Riddles*. Figure 33 illustrates their distribution.

The largest group is the first one in the list, Sx:s, represented in the third pair of columns in the graph. Its share in the word group categories is 78.2% in *Beowulf* and 88.9% in the *Riddles*. The other two groups are very much smaller. In *Beowulf*, the

[199] See "The Light Foot and its Strings of Unstressed Syllables" on page 60.

second group has a share of 15.6% and the third group a share of 6.2%. The percentages in the *Riddles* are 6.2% for the second group and 4.9% for the third group.

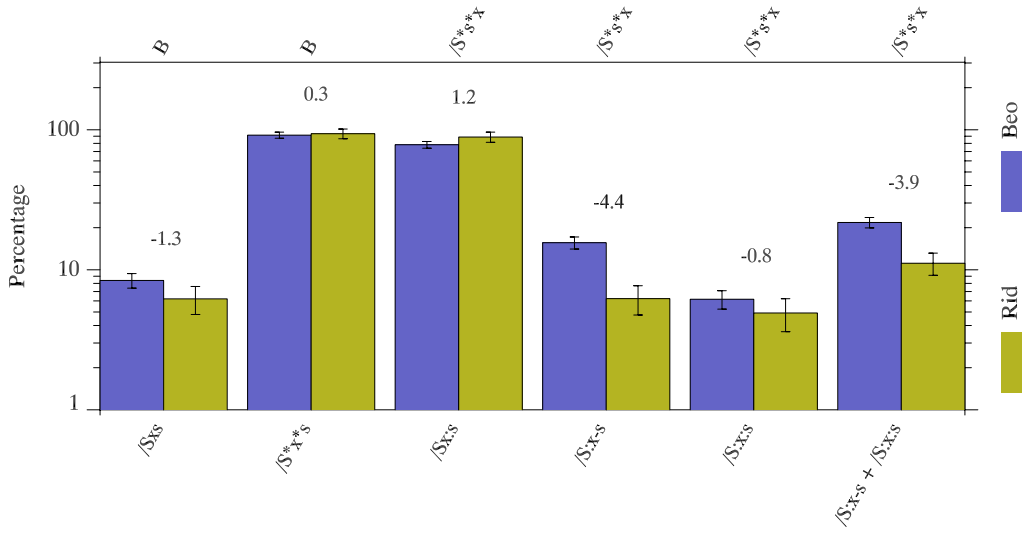

Figure 33: Word groups in B. Normalization labeled in the top row. Percentages in logarithmic array.[200]

The significant deviation between *Beowulf* and the *Riddles* in the second group, the one with the prefix, is interesting.

The foot of this word group is filled with a noun and a prefixed verb in both texts. The *Riddle* poet obviously does not use as many prefixed verbs in this type as the *Beowulf* poet. The result points at a syntactic difference possibly related to a development in Old Norse of the loss of infixes and the reduced use of prefixed forms.[201] The structure of the third and smallest group in both texts is more deviant than the structure of the second group. It resembles the pattern of a compound Sxs with an infix like *handgeweorc* much less than the form of the second group with a prefixed verb. This probably explains the low percentages in both texts.[202]

3.1.12.2. Distribution of Type B to the A-Verse

The distribution to the a-verse shows generally higher percentages for the a-verse in the various groups in the *Riddles*. Figure 34 gives the percentages.

Almost 40% of the B types in the *Riddles* are in the a-verse. *Beowulf* has just under 30% B type a-verses. The result shows a statistical significance of 2.4. The higher frequency of B types and some variants in the a-verse in the *Riddles* does not show a clear preference for the a-verse, but it could indicate that the B type is perceived as more complex, as the linguistic basis of the B type is more marginal or archaic tendencies in the language less pronounced in the *Riddles*.[203]

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[200] See Table 51 on page 60.

[201] See "Prefixes in Word Groups" on page 60 for a detailed discussion.

[202] See also "Mismatched Foot Patterns" on page 60.

[203] The claim to less archaic language structure is also supported by lower counts of prefixes in the *Riddles*. See "Prefixes in Word Groups" on page 60.

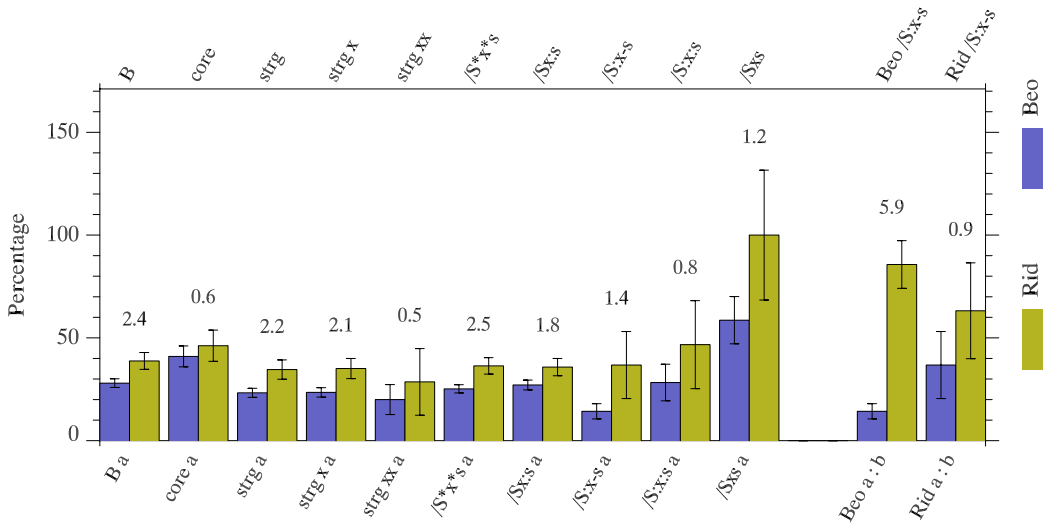

Figure 34: Distribution of B and its variants to the a-verse and the ratio of a verses to b-verses. Normalization labeled in the top row. Percentages in linear array.[204]

The peculiar tendency toward equal distribution between a- and b-verse of verses with a prefixed verb on the last two positions of type B might indicate a less careful alignment of linguistic stress and metrical prominence in the *Riddles*.[205] Only 14.3% are in the a-verse in *Beowulf* and 36.8% in the *Riddles*. The ratio of a- and b-verses for this variant in *Beowulf* shows indeed a very clear bias in favor of the b-verse with a significance of 5.9, whereas the ratio for the *Riddles* is way below significance with a value of 0.9. The result attests an indifferent distribution of this particular variant with regard to the alignment of linguistic stress and metrical prominence.[206] A detailed analysis of the syntactic structure of all the B type variants in both texts would be necessary to receive a decisive statement.[207]

The monosyllabic and disyllabic core verses calculated as one group are equally distributed in the two texts. In *Beowulf*, there are 41% in the a-verse and 46.2%in the *Riddles*.

The B verses with a string of unstressed syllables in the light foot are not equally distributed. All of the string verses are more often a-verses in the *Riddles* than in *Beowulf*, either with a significant percentage or with a tendency in this direction. All of the calculated percentages for the statistical significance are positive, i.e. the percentages are all higher in the *Riddles* than in *Beowulf*, as must be expected in view of the result for the total of B types.

The variants of B types with a word group in the first foot and especially those with the most frequent realization having a trochaic word and a monosyllabic word Sx:s show

[204] See Table 52 on page 60.

[205] See Sievers' "rule of precedence" (1893: §§22-29) and discussions in Russom (1987a: 102-106), Fulk (1992: 182), and Donoghue (1990: 71).

[206] Calculations in Table 52 on page 60.

[207] See also "Distribution to the A-Verse" on page 60.

a significant deviation in the percentages. In the *Riddles*, 36.4% of the verses with any word group in the compound foot occupy the a-verse and 25.2% in *Beowulf*. For the verses with the specific word group Sx:s the percentages are 35.8% in the a-verse for the *Riddles* and 27.1% for *Beowulf*. The numbers for the remaining two structures of word group are statistically comparable.

The reason for the higher frequency of the B type and its variants in the *Riddles* is not obvious. Complexity cannot be an explanation because of the higher percentages of b-verses in all but one variant.

3.1.12.3. Double Alliteration in Type B

Double alliteration is found in the B type, but with less than 10% of all the type B verses in both texts. Figure 35 shows the distributions of the various forms of the B type with double alliteration normalized on the size of the group.

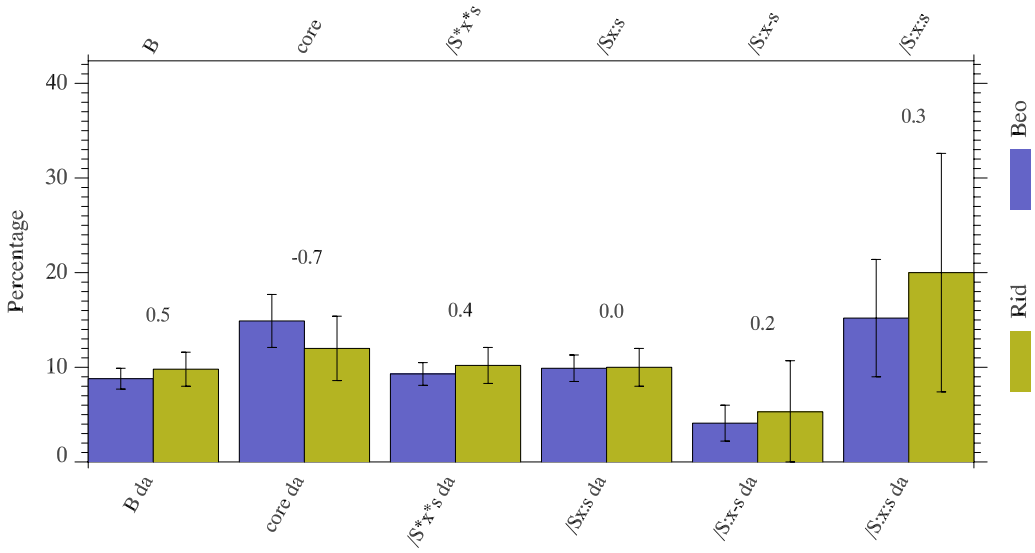

Figure 35: Double alliteration in the variants of type B a-verses. Normalization labeled in the top row. Percentages in linear array.[208]

The evaluation demonstrates the general rule for alliterating syllables: the more deeply subordinated a stressed position is, the less likely it is to carry alliteration.[209] The last position of the verse is obviously an unlikely place for an alliterating syllable. The various groups show differing percentages, but no group has a larger share in double alliteration than 15% in *Beowulf* and 20% in the *Riddles*. The deviations of the comparison are all way below significance. Despite the small numbers in the variant groups, it is safe to regard the handling of double alliteration as identical for all of them in *Beowulf* and in the *Riddles*, for core verses, for the various numbers of extrametrical syllables, as well as for the individual language material in the compound foot.

[208] See Table 53 on page 60.
[209] See "Alliteration" on page 10.

3.1.12.4. Resolution in Type B

The calculations for the resolved positions in type B are carried out for the primary and the secondary position and their distribution to the a-verse. Figure 36 shows the percentages.

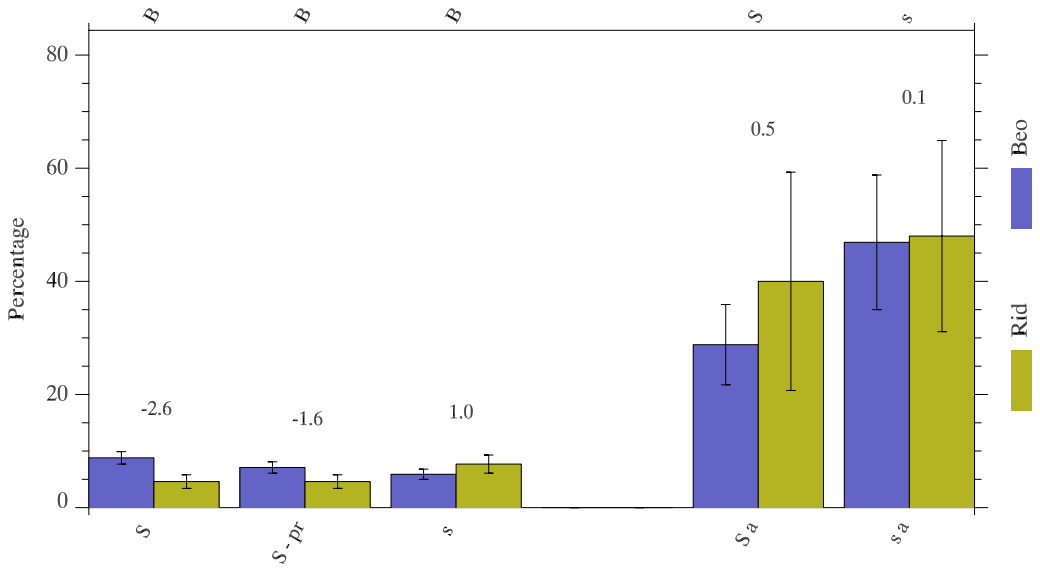

Figure 36: Resolution in B and its distribution to the a-verse. The second pair of columns shows the calculation without verses with proper name compounds in *Beowulf*. Normalization labeled in the top row. Percentages in linear array.[210]

In the *Riddles*, the number of resolved positions on the primary position is significantly smaller. There are 14 verses with proper name compounds on the resolved primary position in *Beowulf*. The calculation without the verses with proper names yield a statistically insignificant result, i.e. the proportion of resolved positions may be considered the same in the *Riddles* as in *Beowulf*.[211]

The proportion of verses with a resolved position on the secondary position is statistically equal in the two texts. The percentage of resolved sequences is very low with 5.9% in *Beowulf* and 7.7% in the *Riddles* as should be expected in view of the rule that resolution occurs least frequently on the position with the most deeply subordinated stress.

Unresolved sequences on the primary position in type B are not found in *Beowulf*, but there is one such verse in the *Riddles*.[212] The problem of one exception vs. no exception among a sizeable group of verses has already been discussed with the unresolved second foot of type 3A on page 58. Here as well, no statistically significant discrepancy can be made out. Nevertheless, the verse must be considered very unusual if not unmetrical in view of its obvious violation of Kaluza's Law.

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[210] See Table 54 on page 60.

[211] See also "Resolution" on page 60.

[212] Rid 44.1b. Calculation in Table 54 on page 60.

The shares of resolved sequences on the primary and the secondary positions in the a-verse are equal in both texts. The percentages do not indicate a preference for the a-verse. On the contrary, these verses are distributed rather equally between the a- and the b-verse with a slight tendency to the b-verse in both texts.

3.1.12.5. Summary for Type B

Both poets use the B type with the same frequency. The percentages of the distribution of monosyllabic and disyllabic light feet for all the syntactic structures show no statistical difference either: both poets compose the B type preferably with a monosyllabic light foot, which reflects the much greater number of monosyllabic function words in the language. The structure of the type with regard to the various combinations of underlying language material is comparable with only few exceptions. Both poets use about the same number and distribution of unstressed syllables in the first foot and equally distributed compounds and word groups in the first foot. The few significant discrepancies are found in the core verses (more in the *Riddles*), in the disyllabic light foot with 2 additional syllables that does not occur at all in the *Riddles*, and in the smallest word group with a prefixed verb, the one of the form S:x-s. This group is much more frequent in *Beowulf*. The *Riddle* poet uses significantly fewer prefixed verb forms on the last two positions of type B.

The B type a-verses show statistical differences. There are significantly more B types in the a-verse in the *Riddles* than in *Beowulf*. The reason for this is not obvious. The *Riddle* poet might consider type B as more complex as the *Beowulf* poet, despite the fact that the majority of almost all the variants are b-verses in the *Riddles*.[213] The only exception is found in the group with a compound in the first foot. The *Riddle* poet shows a clear preference to compose this variant in the a-verse. Here, the complexity of the compound form Sxs seems to play a role.

Double alliteration occurs in less than 10% of the B types. Normalized on the number of a-verses, the percentages of the larger groups are between 30% and 45% in *Beowulf* and between 20% and 35% in the *Riddles*. Its distribution is statistically equal in the two texts.

The calculations for resolution show a significant difference in the numbers of verses with a resolved sequence on the primary position only if proper names on this particular position are included. The alternate calculation shows insignificantly fewer in the *Riddles*.[214] So, the percentages may be considered statistically equal.

3.1.13. Type B2

The type occurs more frequently in the *Riddles* than in *Beowulf*, although not with statistical significance. In the list of frequency, it ranges as number 8 in *Beowulf* with 2.7% of readable verses and as number 7 in the *Riddles* with 3.5%.[215] The structure of the B2 type is closely related to the B type. The first foot has a monosyllabic or a disyllabic light foot and may be preceded by a string of 1 to 4 unstressed words. Its second foot has

[213] See "Prefixes in Word Groups" on page 60 for the discussion of parallel developments in the Norse tradition.
[214] See "Resolution" on page 60.
[215] See Figure 72 on page 60 and Table 11 on page 60.

the tetrasyllabic compound pattern Sxxs, the rarest of the compound feet in *Beowulf*.[216] There is only 1 B2 verse with such a compound in this foot in *Beowulf*, and none occur in the *Riddles*.[217]

With this one exception, the second foot is filled by a word group with one of several syllabic combinations. The most frequent combination is found in the example

Beo 7b *hē þæs frōfre gebād* x:x/S^{A}x:x-s B2
'he lived to see consolation for that'

in which the word group on the compound foot mainly consists of a trochaic simplex and a prefixed verb and the monosyllabic light foot is preceded by an additional unstressed syllable. Other forms of word groups and the syntactic structure of the light foot are discussed in the following section.

3.1.13.1. Linguistic Material in Type B2

Figure 37 gives the percentages of the various evaluations of the B2 type.

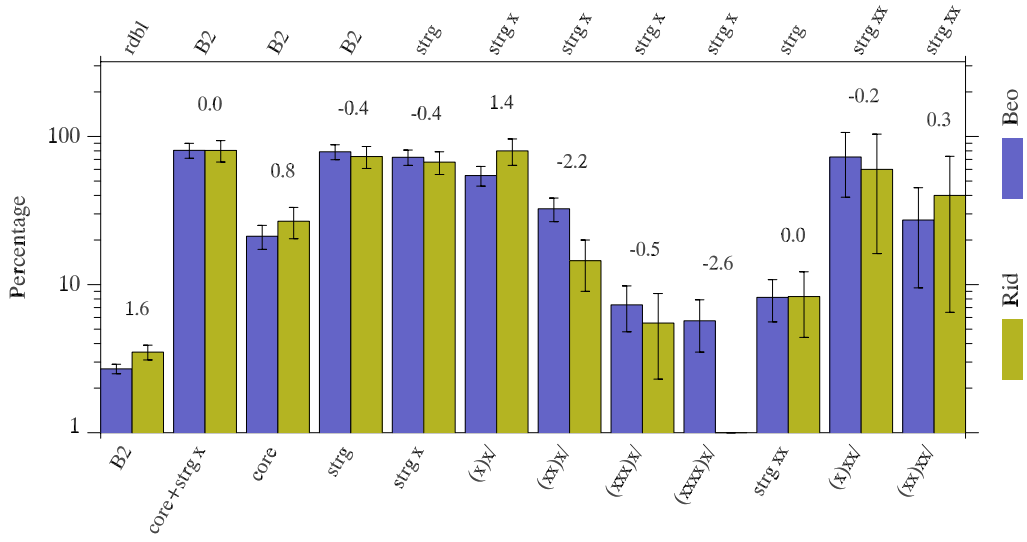

Figure 37: The light foot in B2. Normalization labeled in the top row. Percentages in logarithmic array.[218]

The distributions of monosyllabic and disyllabic light feet are statistically equal with 80% of monosyllabic light feet in the two texts. Core verses are also distributed with almost the same percentages in both texts.[219] There are 21.2% in *Beowulf* and 26.8% in the *Riddles*.

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[216] See "Distribution of Compounds and Compound Feet" on page 60.

[217] See Beo 805b with the compound *aldorgedāl*. There are 2 Db2 verses with the compound *sibbegedriht* in Beo 387a and 729a. See footnote 300 below.

[218] See Table 55 on page 60.

[219] Core verses in type B2 consist of a light first foot without additional unstressed syllables and with a compound or a word group in the first foot.

Extrametrical syllables before the monosyllabic light foot in B2 show a significant deviation in two groups, the one with 2 additional syllables and the one with 4. In the *Riddles*, only verses with up to 3 additional syllables occur. On the whole, the percentages for the strings do not show any significant deviation. The group with 2 syllables is larger in *Beowulf* with 32.5% than in the *Riddles* with 14.5%. The discrepancy is statistically significant. In verses with a disyllabic light foot, there is no statistical difference in distribution. The structure of the string of unstressed syllables in the light foot is further discussed in the comparison of all types.[220]

The difference in distribution in the various compositions of the word groups in the first foot shows wider discrepancies. There are seven different word groups listed below in the order of their frequency:

a) Sx:x-s b) Sx:x:s c) S:x:x:s d) Sxx:s

e) S:x:x-s f) S:xx:s g) S:xx-s

In the *Riddles*, the word group a) Sx:x-s, like the most characteristic example of a B2 type in *Beowulf* as in Beo 7b above, is not the most frequent one. Figure 38 shows the corresponding percentages.

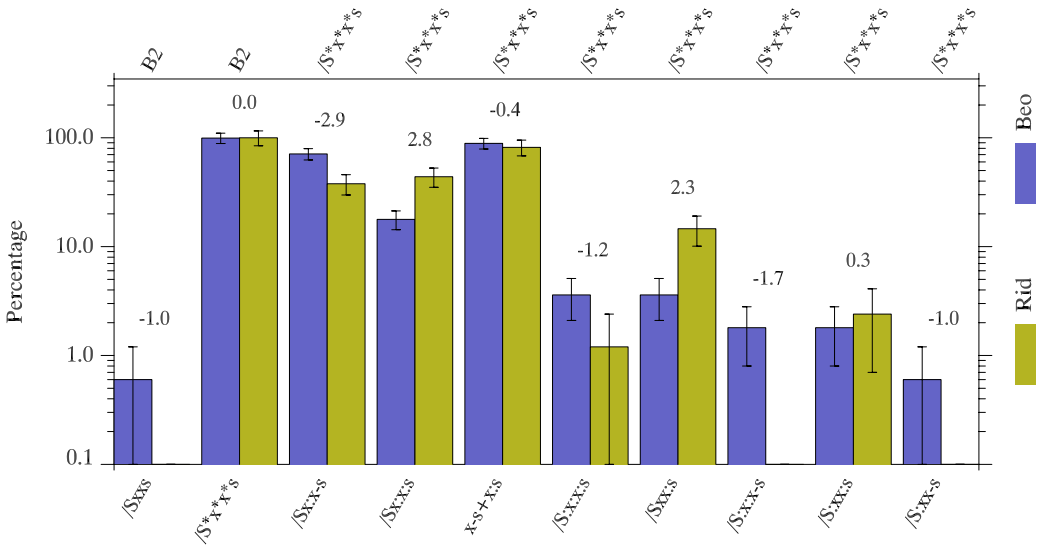

Figure 38: Word groups in B2. Normalization labeled in the top row. Percentages in logarithmic array.[221]

The combination Sx:x-s occurs with a frequency of 71% in *Beowulf* but of only 37.8% in the *Riddles*. As discussed before with the word groups of type B, there are significantly fewer prefixed forms in the *Riddles* than in *Beowulf*.[222]

The remaining combinations of word groups show a significant discrepancy only in the group of the form d) Sxx:s with a dactylic word followed by a monosyllable. The percentages for this word group are very low: 3.6% in *Beowulf* and 14.6% in the *Riddles*.

[220] See "The Light Foot and its Strings of Unstressed Syllables" on page 60.

[221] See Table 56 on page 60.

[222] See discussion for type B on page 60 and "Prefixes in Word Groups" on page 60.

The statistical significance is calculated at 2.3. The discrepancy may be explained as a difference in linguistic material. The *Beowulf* poet uses this word group to accommodate 3 proper names, 1 compound with a lexicalized root, and 2 adjectives with a long medial syllable.[223] Both word classes show an ambiguous metrical value of the medial syllable. It may be scanned with secondary stress or no stress, according to the surrounding metrical positions and the resulting acceptable type.[224] In the *Riddle* text, the majority of examples, i.e. 9 out of 12, contain a lexicalized compound with *-licu* or *-līce*. In these cases the metrical value of the lexicalized stem is clearly ambiguous and a dactylic scansion perfectly acceptable. The formula *Ic eom wunderlicu wiht* and variations of it occur in 7 out of the 9 examples with a lexicalized root constituent.[225] The large number of formulaic verses accounts for the statistical deviation for the word group Sxx:s and the metrical soundness is not impaired by it. The remaining 2 examples have a similar linguistic content that permits dactylic scansion as well: *þæt mec bealdlīce mæg* and *þæt swā fromlīce mæg*.[226] There are three more type B2 verses with a word group Sxx:s in the *Riddles*. Two of them are simplexes with a long medial syllable as we also find it in *Beowulf*, and one of them has a nominal compound on the dactylic foot.[227] The last example has no equivalent verses in *Beowulf*. It must be considered outside the metrical framework of *Beowulf*. The one exception cannot be responsible for a significant deviation, however. On these grounds, the metrical implications of the result for the word group Sxx:s are negligible.

Verses with a second foot of the form e) S:x:x-s are not found at all in the *Riddles* and only 3 in *Beowulf*. Although the statistical deviation with a significance of 1.7 indicates a mere tendency toward a less frequent use of forms with a prefix in the *Riddles* in general, the result supports the findings in other types and word groups with statistically significant percentages.[228]

The two groups with a disyllabic unstressed word, f) S:xx:s and g) S:xx-s, are extremely rare: the one with the prefix does not occur at all in the *Riddles* and only once in *Beowulf*. Their distribution is statistically equal. The same argument holds for the word group S:xx-s as for S:x:x-s discussed above: the result points at a reduced use of prefixed forms in the *Riddle* text in consideration of statistically significant results in other types and word groups.[229]

3.1.13.2. Distribution of Type B2 to the A-Verse

The distribution of the B2 type of any form to the a-verse is equal in the two texts. Figure 39 illustrates the calculations. In *Beowulf*, 32.4% of the B2 types are in the a-verse and 41.5% in the *Riddles*. Core verses are equally distributed as well, with 69.4% in *Beowulf* and 59.1% in the *Riddles*. With the exception of the B2 type with a dactylic word in the word group of the compound foot, the distribution of the various word groups may be

[223] Proper names: Beo 501b; 1329b; 1830b; lexicalized root: 932b; 949b; 1941b.
[224] See "Lexicalized Compounds" on page 16, especially Russom's scansion of indeterminate stress on page 18.
[225] Rid 18.1a; 20.1a; 24.1a; 25.1a; 29.7a; 32.5a; 87.1a.
[226] Rid 40.16b and 40.69a.
[227] Long medial syllable: Rid 15.21a; 20.7a; nominal compound: Rid 15.20a.
[228] See "Prefixes in Word Groups" on page 60.
[229] See also word groups in type B on page 60.

considered equal or statistically non-significant in *Beowulf* and in the *Riddles*. The type with the dactylic word occurs only in the b-verse in *Beowulf*.

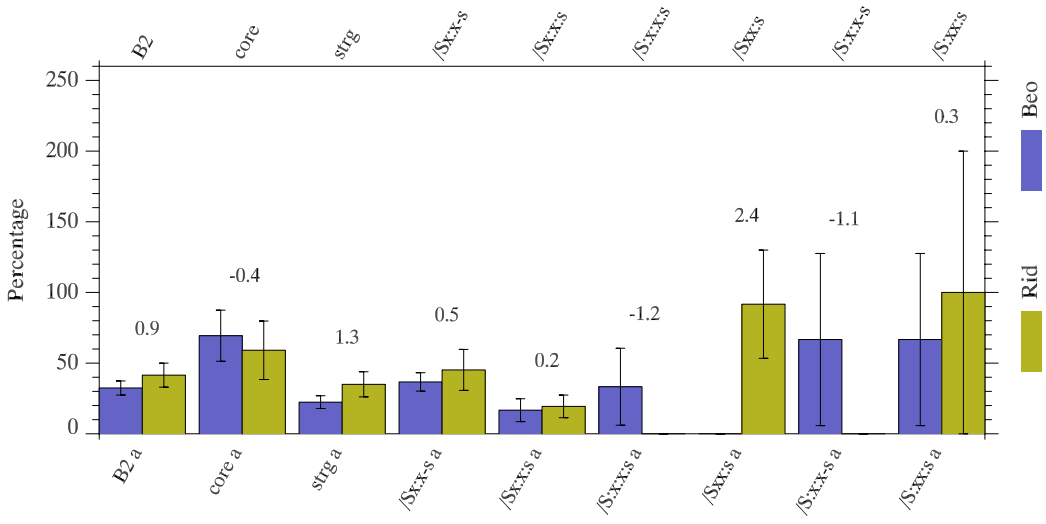

Figure 39: Distribution of B2 and its variants to the a-verse. Normalization labeled in the top row. Percentages in linear array.[230]

In the *Riddles*, 11 out of 12 are in the a-verse. This result is statistically significant. Therefore, it seems that the *Beowulf* poet does not consider the B2 type with a dactylic word as complex as the *Riddle* poet. The compound foot Sxxs with or without a word group seems to be considered more complex in the *Riddles* on the whole: B2 types show a stronger pull toward the a-verse than in *Beowulf*. The same holds true for type B.[231]

3.1.13.3. Double Alliteration in Type B2

Double alliteration is applied in pretty much the same way in both texts. Figure 40 shows the percentages.

Only 11.2% of all the B2 verses in *Beowulf* have double alliteration, and 15.9% in the *Riddles*. The difference is not significant. The percentages for the core verses show equal distribution in the two texts. In general, core verses with double alliteration show a higher percentage than verses with additional syllables before the light foot in *Beowulf*.

In the *Riddles*, the distribution is more balanced. With the exception of the monosyllabic core verses, they show percentages between 13% and 18% with double alliteration. For the verses with a string, a tendency toward significance may be perceived. But none of the percentages show significant statistical discrepancies. Double alliteration is quite equally implemented in *Beowulf* and in the *Riddles*.

[230] See Table 57 on page 60.
[231] See "Distribution of Type B to the A-Verse" on page 60.

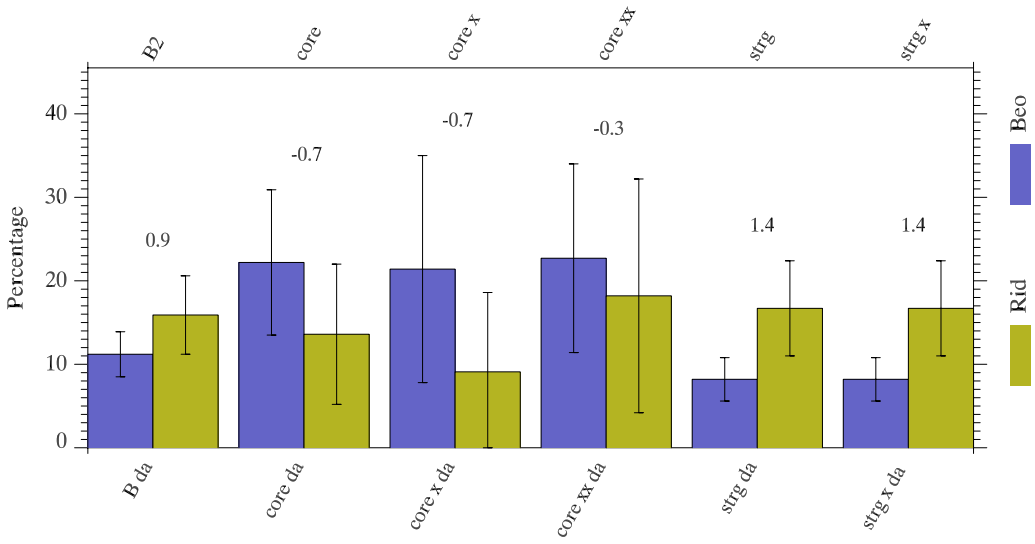

Figure 40: Double alliteration in the variants of type B2 a-verses. Normalization labeled in the top row. Percentages in linear array.[232]

3.1.13.4. Resolution in Type B2

The percentages for resolution in type B2 are similar to those for type B. Figure 41 shows the relevant percentages.

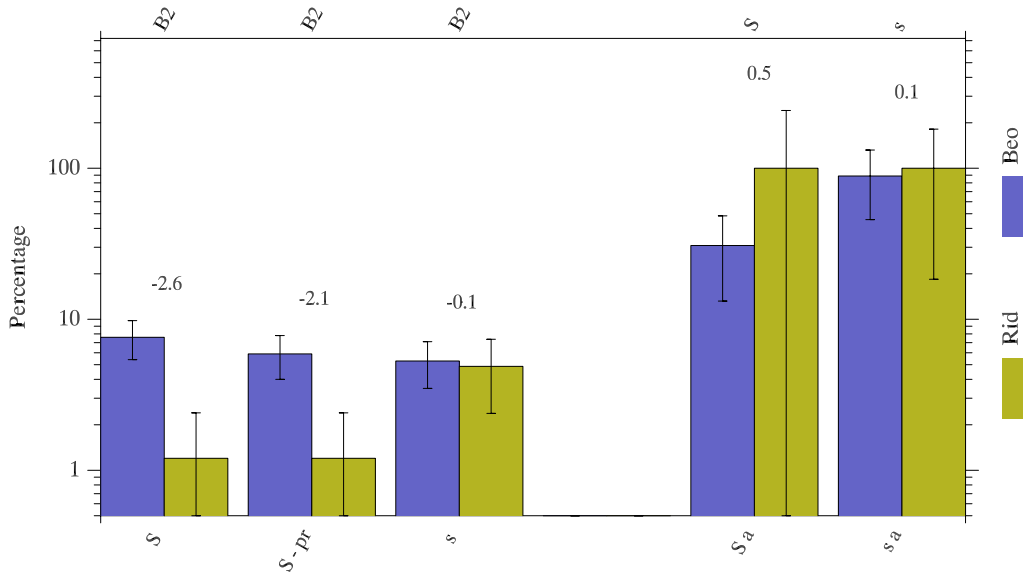

Figure 41: Resolution in B2 and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[233]

[232] See Table 58 on page 60.
[233] See Table 59 on page 60.

There are significantly fewer resolved positions on the primary position in the *Riddles* than in *Beowulf*, in fact there is only 1 in the *Riddles* as compared with 13 in *Beowulf*. In contrast to the statistical difference in type B, here the number of verses without those that contain a proper name still yields a statistically significant result. However, with such low numbers, it is obvious that the result yields little valid information. The comparison of resolved sequences on the primary position in all types will reveal whether the results for B and B2 with fewer resolved primary positions are in accord with the results for the other types.[234]

The percentages for resolved secondary positions are very low as should be expected and they are equal for both texts. The proportion of a-verses for both resolved positions are equal, but here again, the numbers are too small for a conclusive result.

3.1.13.5. Summary for Type B2

In the *Riddles*, type B2 is more frequent. The reason might lie in the variability of the long compound foot that accommodates a variety of word groups. The type is also used in *Beowulf* for word groups with only one exception.

The distribution of unstressed syllables in the light foot shows differences in the string with a monosyllabic light foot and two or four additional syllables. The *Riddles* have a significantly lower number of such strings.

The various compositions of word groups of type B2 are not equally distributed in the two texts. The word groups that contain a prefixed verb occur significantly less frequently in the *Riddles*. The same result is seen in type B.[235]

The share of B2 a-verses is statistically the same in both texts for all the variant forms with the exception of the verses with a dactylic word on the word group: they are all in the b-verse in *Beowulf*.

There is no statistical discrepancy in the application of double alliteration in the two texts.

Resolution on the primary position of type B2 is scarcer in the *Riddles* as the results also show for type B. The number of resolved secondary positions is statistically comparable and so are the proportions of a-verses with a primary or a secondary resolved position. All of the calculations are based on small numbers and the results cannot really support valid conclusions.

3.1.14. Type C

Type C is the second most frequent type in the two texts. In *Beowulf*, 17.7% of all readable verses are C types; in the *Riddles* there are 16.8%.[236] The percentages are statistically comparable. The verse structure of the C type is very similar to that of the B type. It has either a monosyllabic or a disyllabic light foot (called monosyllabic or disyllabic core verse, disregarding the mismatch in the second foot) or it has additional extrametrical syllables preceding the core of the light foot. Its second foot is filled with the standard compound foot Ssx that is occupied by a compound form, but may also accommodate a word group. A typical example would be

[234] See also "Resolution" on page 60.
[235] See Figure 33 on page 60.
[236] See Figure 72 on page 60 and Table 9 on page 60.

Beo 138a	*Đā wæs ēaðfynde*	x:x/S^{A}sx	C
	'Then [it] was easy to find'		

The distribution of compound foot and word group is almost balanced in *Beowulf*. In the *Riddles*, the C types with a compound have a share of about one third only. The following section deals in detail with the evaluation of the syntactic structure of type C.

3.1.14.1. Linguistic Material in Type C

In this pattern, the statistically significant deviations in the two texts occur in the type with a disyllabic light foot and, as mentioned above, in distribution of the compound foot occupied by a compound or a word group. Most of the other evaluated percentages are statistically equal. Figure 42 shows the percentages for the core verses and the various sizes of strings in the light foot. The calculations for the compound and the word group foot are shown in Figure 43 on page 80.

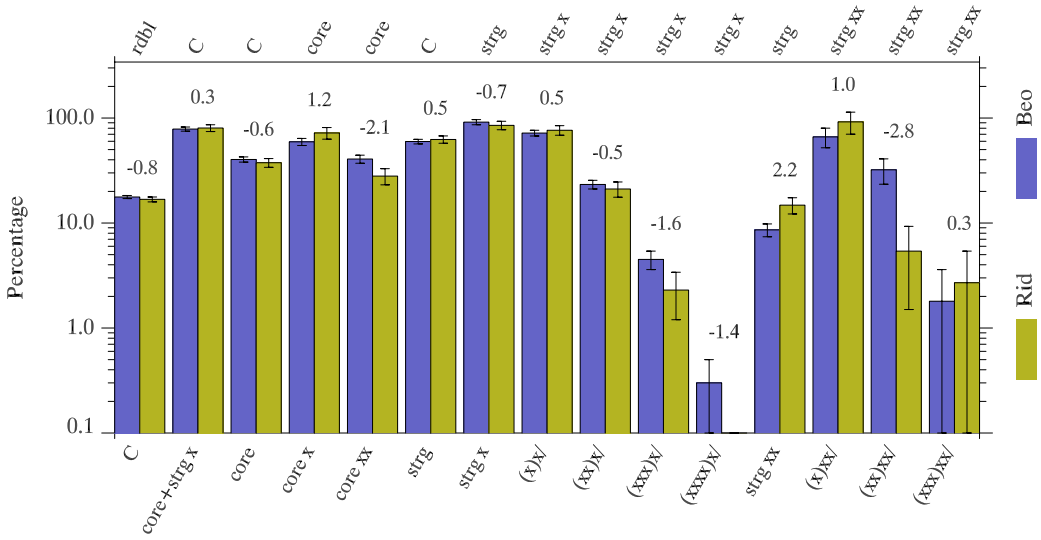

Figure 42: The light foot in C. Normalization labeled in the top row. Percentages in logarithmic array.[237]

In type C the distribution of all the verses with a monosyllabic light foot, core verses[238] and verses with extrametrical syllables before the light foot added up, is almost the same with 78.5% in *Beowulf* and 80.3% in the *Riddles*. The results for the core verses show a proportion of monosyllabic core verses to disyllabic ones of about 60% to 40% in *Beowulf* and of about 70% to 30% in the *Riddles*. The discrepancy is statistically significant for the disyllabic core verses, where the *Riddle* poet uses significantly fewer.

Type C occurs in *Beowulf* with 1 to 4 extrametrical syllables before the monosyllabic light foot and with 1 to 3 before the disyllabic one. In the *Riddles*, there are only 3 additional syllables before either of the light feet. The number of additional syllables represents the order of frequency in both texts. The group with 1 syllable is by far the

[237] See Table 60 on page 60.

[238] Core verses in type C consist of a light first foot without additional unstressed syllables and with a compound or a word group in the first foot.

largest in both light feet, the monosyllabic and the disyllabic one. The majority of verses have one additional syllable before a monosyllabic light foot, namely 71.9% in *Beowulf* and 76.5% in the *Riddles*. The group with 2 additional syllables before the monosyllabic light foot is equally distributed with a little over 30% in both texts. The remaining variants with 3 and 4 syllables occur with considerably fewer verses. The group with 4 additional syllables is very small in *Beowulf* with only 2 examples and non-existent in the *Riddles*. In both variants, the comparison of the percentages indicates a tendency toward fewer verses in the *Riddles*, but the very low numbers include a large error and may not yield a conclusive result. The percentages with extrametrical syllables before the monosyllabic light foot are generally equal. The evaluation of patterns with a disyllabic light foot, however, does show significant statistical deviation. Verses with extrametrical syllables before the disyllabic light foot occur significantly more often in the *Riddles*. The reason for this is not obvious. But on the whole, the *Riddle* poet seems to structure the first foot of his type C verses rather closely to the most frequent pattern in *Beowulf*, i.e. the pattern with the monosyllabic light foot and 1 additional syllable. The discussion of strings of unstressed words in the first foot in all types concerned adds further information on the size of the string and its syntactic structure.[239]

For the shares of verses with a compound or a word group in the second foot, there is considerable statistical discrepancy. Figure 43 illustrates the proportions.

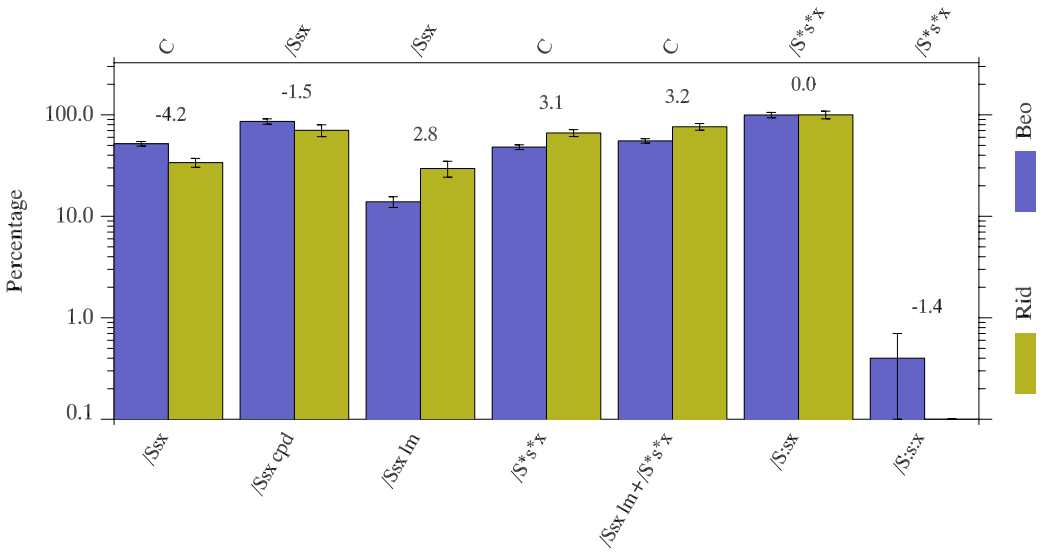

Figure 43: Word groups in C. Normalization labeled in the top row. Percentages in logarithmic array.[240]

In *Beowulf*, there are significantly more compound feet than in the *Riddles*.[241] The compound foot may be occupied by a true compound, but also by a long-stemmed simplex with a long medial syllable. For the total number of compound feet, the discrepancy between the percentages in *Beowulf* and in the *Riddles* is statistically

[239] See "The Light Foot and its Strings of Unstressed Syllables" on page 60.
[240] See Table 61 on page 60.
[241] See Figure 81 on page 60 and Table 105 on page 60.

significant with a calculated value of -4.2 with 51.9% in *Beowulf* and 33.8% in the *Riddles*. However, the percentage for the true compounds is only tentatively larger in *Beowulf* with 86.1% vs. 70.4% in the *Riddles*. The value for the simplex with a long medial syllable is significantly smaller in *Beowulf* with 13.9% and 29.6% in the *Riddles*. Word groups in the compound foot show a higher percentage in the *Riddles* with 66.3% and a statistical significance of 3.1. There is only one form of word group in the *Riddles*, and with the exception of two verses, the same group occurs in *Beowulf*, namely the combination of a monosyllabic and a disyllabic word S:sx.[242] The result is in keeping with the far greater number of compounds in *Beowulf*. The number of simplexes and word groups added up are significantly more frequent in the compound foot in the *Riddles* with 76.3% vs. 55.4% in *Beowulf*. Type C is definitely the ideal location for the most frequent compound foot pattern acceptable with a word group or a simplex with a long medial syllable, since it accommodates a variety of syntactic structures with a string of function words and without a compound.

3.1.14.2. Distribution of Type C to the A-Verse

About half of the C types occur in the a-verse in both texts, 45.9% in *Beowulf* and 45.5% in the *Riddles*. The evaluation of the percentages are shown in Figure 44.

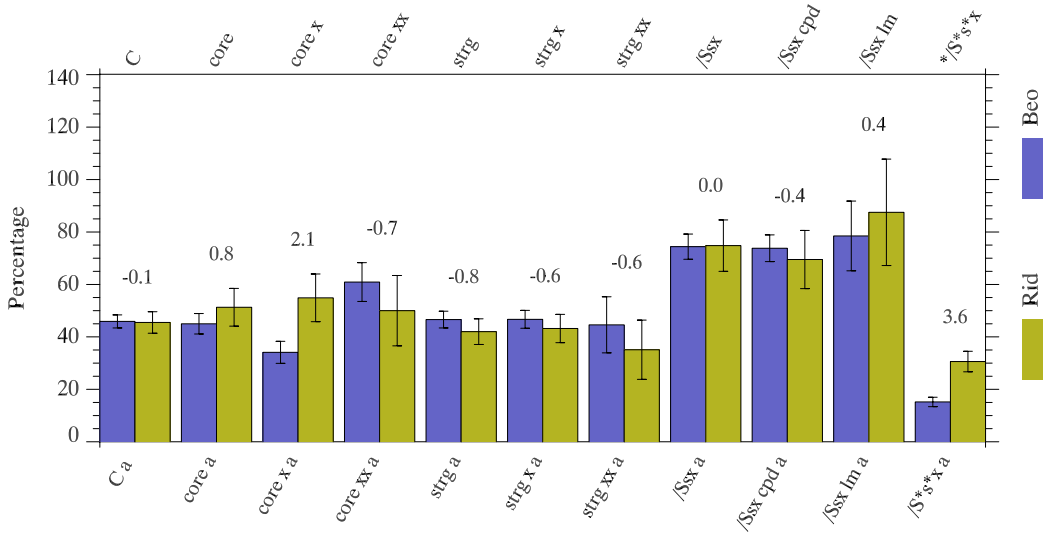

Figure 44: Distribution of C and its variants to the a-verse. Normalization labeled in the top row. Percentages in linear array.[243]

The result for both of the core verses, the monosyllabic and the disyllabic ones added up as a group, yields about the same result: 45% in *Beowulf* and in the *Riddles* 51.3% occupy the a-verse. The distribution of monosyllabic core verses shows a significant deviation. The *Riddle* texts has 54.9% in the a-verse, whereas in *Beowulf*, there are only 34.1% a-verses. The difference cannot indicate a preference for the monosyllabic core

[242] The exceptional two examples have a word group of three monosyllabic words and are almost identical: Beo 426b: *Ic þē nū ðā* and Beo 657b: *būton þē nū ðā*. They must be considered way outside the norm.
[243] See Table 62 on page 60.

verses occupying the a-verse in the *Riddles*, although the discrepancy is significant in comparison to the percentage for *Beowulf*, since the discrepancy between about 55% of monosyllabic and about 50% of disyllabic core verses in the a-verse in the *Riddles* is insignificant.[244] However, the difference in distribution is significant in *Beowulf*, where only about 34% of the monosyllabic core verses are in the a-verse and about 61% of the disyllabic ones. Therefore, the *Beowulf* poet has a preference of disyllabic core verse in the a-verse that the *Riddle* poet does not share.

The evaluation of the verses with extrametrical syllables before the light foot have very even proportions. Both strings, those of the monosyllabic and the disyllabic light foot, have a share of 46.6% of a-verses in *Beowulf* and of 42% in the *Riddles*. The discrepancy between a-verses with a string in the monosyllabic light foot and those with a disyllabic light foot in the *Riddles* is slightly larger, but not significantly so.[245] The overall evaluation of the entire string of unstressed syllables, i.e. the core verses included in the number of verses with strings in the light foot must be considered for a valid statement on the possible preference for C types with a disyllabic light foot in the a-verse in *Beowulf*. The issue is addressed in the comparison of all types.[246]

The percentages of the C types with a compound or a word group in the first foot in the a-verse does not allow for a valid interpretation either. The share of verses with a compound or a simplex with a long medial syllable in the first foot is equal in the two texts. Both have 74% in the a-verse. However, C types with a word group on the compound foot occur significantly more often in the a-verse in the *Riddles* than in *Beowulf*. But the calculations for the significance in the distribution between the a- and the b-verse shows a clear preference for the b-verse in both texts, although the discrepancy is considerably wider in *Beowulf* with 84.8% b-verses and a significance of 12.1 and with 69.4% b-verses and a significance of 5 in the *Riddles*.[247] The question of alignment of linguistic stress and metrical prominence and the degree of observance might again be of interest as in type B. The present analysis does not include a detailed evaluation of the syntactic structure of the types and does therefore not yield a result in this regard. On the whole, the distribution in type C to the a- or the b-verse does not produce a clear indication that any of the evaluated variants is treated differently in the *Riddles* than in *Beowulf*. Both prefer the a-verse for the compound foot and show a rather equal distribution to the a-verse for core verses and verses with strings in the light foot.

3.1.14.3. Double Alliteration in Type C

Double alliteration is rare in the C type in *Beowulf*. Figure 45 shows the corresponding percentages. Only 4.7% o of all the C types show double alliteration in *Beowulf*. In the *Riddles*, there are 8.8% C type a-verses with double alliteration. The result is statistically significant. The values for the different variants of the core verses in the *Riddles* are comparable to the values in *Beowulf*: there are no significant discrepancies. A significant deviation is found in the verses with extrametrical syllables before the light foot and in verses with a word group in the first foot. The majority of C verse variants with double

[244] Calculations are shown in Table 63 on page 60.
[245] See Table 63 on page 60.
[246] See "The Light Foot and its Strings of Unstressed Syllables" on page 60.
[247] Calculations are shown in Table 63 on page 60.

alliteration shows such low percentages that despite the statistical significance, a valid statement about a possible reason for the phenomenon is difficult to make.

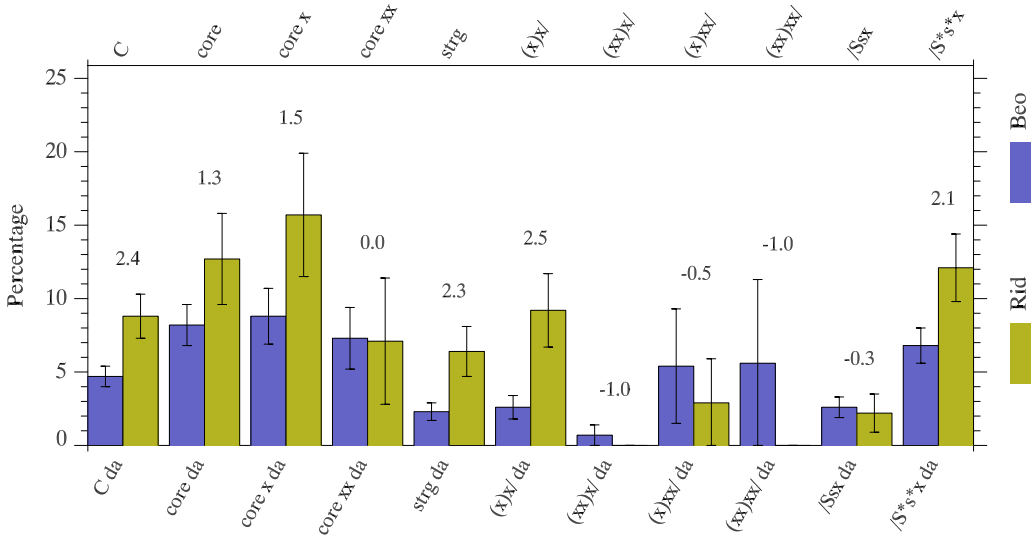

Figure 45: Double alliteration in the variants of type C a-verses. Normalization labeled in the top row. Percentages in linear array.[248]

3.1.14.4. Suspended Resolution and Resolution in Type C

Type C occurs very often with an unresolved sequence on the last two positions. They are called shortened C types, following Sievers term "verkürzter typus".[249] The placement of resolvable sequences is subject to restrictions in the full and the shortened C type. Resolution on the primary position is not implemented in the same fashion if the secondary position is resolved or stands unresolved. If the secondary position is unresolved, resolution on the primary position is avoided.[250] If the secondary position is resolved, the primary position is very often occupied by a resolvable sequence as well.[251] Figure 46 includes the percentages for the occurrences of the various combinations of resolvable sequences.

The shares of C types with suspended resolution on the secondary position are statistically equal in *Beowulf* and in the *Riddles*. Both texts have about 40% of such verses.[252]

Resolution on the primary position is not frequent in *Beowulf* with 20.6% of all the C verses. The percentage in the *Riddles* is slightly higher with 26.3%, but the statistical evaluation only shows a tentative and not a significant discrepancy.

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[248] See Table 64 on page 60.

[249] Sievers (1885a: 243).

[250] Sievers (1885a: 243, 248; 1893: §80.1.).

[251] See also "Resolution" on page 60.

[252] Calculations for the shortened verses with a long or a short ending in the second syllable of the resolvable sequence are not included, since Kaluza's Law does not apply in type C, if the syntactic constituency is disregarded. Fulk (1992: §§174-175, especially footnote 12). See also Suzuki (1996: 21ff.) for a discussion of the shortened C type and Fulk's findings.

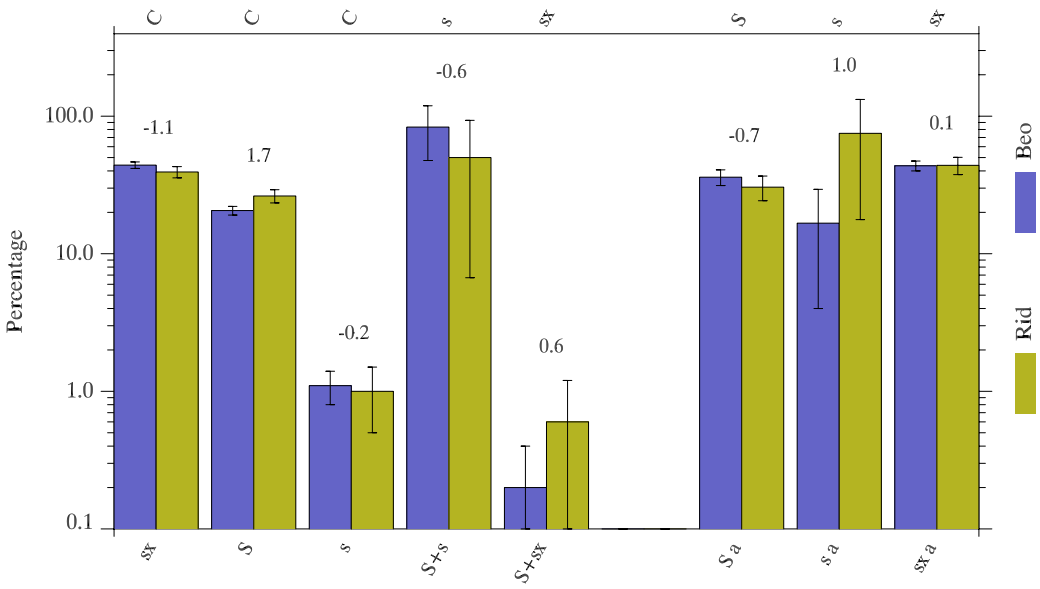

Figure 46: Suspended resolution and resolution in C and combinations of resolved primary positions with resolved or unresolved secondary positions. Distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[253]

Resolution on the secondary position is extremely rare with only 1% in *Beowulf* and in the *Riddles*. A rather high percentage of the verses with a resolved secondary position has resolution on the primary position as well in *Beowulf*. The result hints at a preference for added prominence to the primary position through the resolved primary position in combination with a resolved secondary position. In *Beowulf*, 83% of the verses with a resolved secondary position show this combination. Although the percentage for such verses is only 50% in the *Riddles*, the difference is not statistically significant. The total numbers of these verses are very low and the calculations include a large statistical error with no definite results. No conclusion is possible about the observance of the preference for added prominence in the *Riddle* text, since it is uncertain whether the *Beowulf* poet actually preferred a resolved resolvable sequence on the primary position if the secondary position is resolved. The calculations do not yield a conclusive result.

The obvious restriction in *Beowulf* of resolution on the primary position in verses with an unresolved secondary position is observed in the *Riddles*. There is only one such verse in either text or 0.2% in *Beowulf* and 0.6% in the *Riddles*. The important outcome is the equally low frequency in both texts of verses with restricted resolution that allows for the conclusion that both poets observe the preference and the restriction described above in the same fashion despite the very uncertain statistical values.

The proportions of a-verses with resolved or unresolved sequences do not show statistical divergence between the two texts. The percentages for the resolved primary position shows a clear preference for the b-verse in both texts.[254] The numbers for the resolved secondary position are too small to allow for a conclusive statement. The

[253] See Table 65 on page 60.
[254] Calculations for the statistical significance are shown in Table 66 on page 60.

calculations do not show a statistical significance despite the great difference in percentages. The calculations for the C verses with an unresolved secondary position also show a definite preference for the b-verse in *Beowulf* and a tentative preference in the *Riddles.*

On the whole, C verses with resolution and/or suspended resolution are composed in pretty much the same way in *Beowulf* as well as in the *Riddles*. The issue is further discussed in the comparison of resolution in all types.[255]

3.1.14.5. Summary for Type C

The evaluation of the language material in type C does not yield great differences in the two texts. They only occur in the calculations of verses with a disyllabic light foot and of verses with a word group on the compound pattern. The *Riddles* have significantly fewer disyllabic core verses and significantly fewer verses with 2 additional syllables before the disyllabic light foot. On the other hand, there are significantly more verses in the *Riddles* than in *Beowulf* with a disyllabic light foot that have additional syllables before the light foot, including all three groups, i.e. with 1, 2, or 3 syllables. The reason for the differences is not obvious. The issue is further discussed in the chapter on light feet and strings on page 149. Significant differences are also calculated for word groups. In the *Riddle* text, the compound pattern is more often occupied by a word group than by a compound and more often by a simplex with a long medial syllable than with a compound form. The composition of the word group is the same in both texts with the exception of two verses in *Beowulf* where the word group is not S:sx as in all the other C verses, but S:s:x.

The distribution to the a-verse shows comparable proportions in all the type C variants with the exception of the monosyllabic core verse, which is significantly more often composed in the a-verse in the *Riddles*.

Double alliteration occurs significantly more often in the *Riddles* in type C. The C verse with a word group on the compound pattern shows the corresponding value: in this variant, double alliteration is significantly more frequent than in *Beowulf*.

The calculations for resolution and suspended resolution show remarkably similar results for the two texts. Only the value for resolution on the primary position is close to significance, where the *Riddles* have a higher percentage.

3.1.15. Type C2

Type C2 ranks among the rarest verses in *Beowulf*. With 19 examples it stands in the last position, i.e. rank 13 in the table of verse types listed in the order of their frequency. In the *Riddles*, the type occurs significantly more frequently. There are 25 examples in the *Riddles*. The percentage is still very low with 1.1.%, but it ranks as number 11 in the list.[256] Type C2 consists of a first monosyllabic or disyllabic light foot and a second dactylic foot filled with a dactylic word. The example below is typical, a verse with the monosyllabic light foot preceded by one extrametrical syllable

[255] See "Resolution" on page 60.

[256] See Figure 73 on page 60 and Table 11 on page 60.

Beo 96a	*ond gefrætwade* 'and adorned'	x:x-/S^{A}xx	C2

The type also occurs with 1 to 3 additional syllables before the light foot in *Beowulf*, with 1 or 2 in the *Riddles*. Figure 47 shows the corresponding percentages.

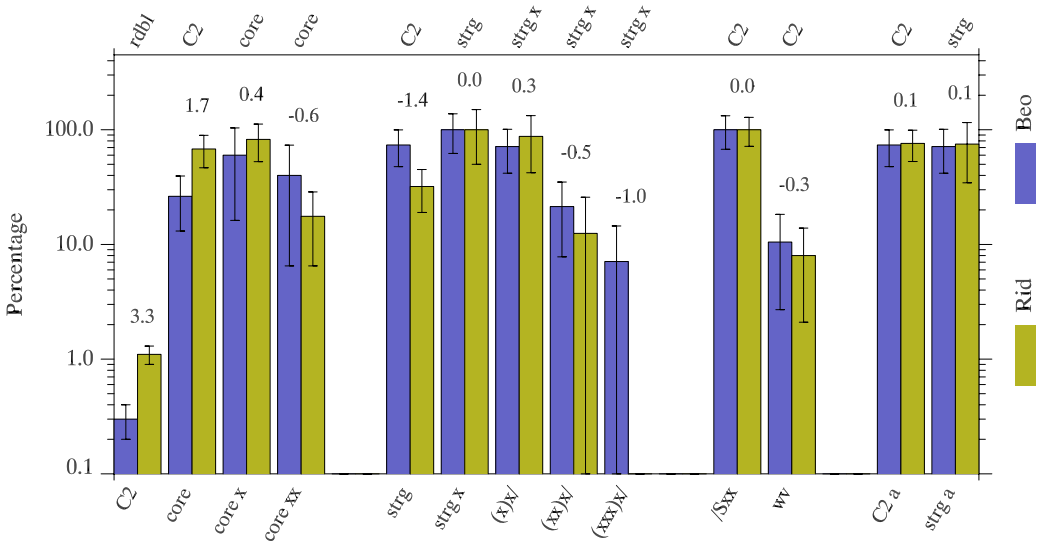

Figure 47: Linguistic material in C2 and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[257]

The statistical evaluation of the language material does not reveal any statistical deviation in the percentages of the two texts. There is a tendency in the *Riddles* to compose more core verses than in *Beowulf*, and consequently fewer verses with additional syllables in the light foot. The majority of the type in both texts has the particular syntactic structure of the above example from *Beowulf*, a monosyllabic light foot with 1 additional unstressed syllable. The issue of the size of the string is discussed in the comparison of all types.[258] Together with the strings of other types, the results of type C2 might still yield a certain insight, despite the very small numbers of variants.

The vast majority of verses are in the a-verse in both texts, 73.7% in *Beowulf* and 76% in the *Riddles*. The discrepancy in percentage is so low that the results of the two texts may be considered equal.

Type C2 is one of the locations for a trisyllabic word. The dactylic foot is never occupied by a word group in this type as it may be in type 3A for example. On the whole, type C2 shows very similar metrical features in the *Riddles* to those of type C2 in *Beowulf*. The only statistical discrepancy concerns the number of verses. As mentioned already, the type occurs considerably more frequently in the *Riddles*.

Resolution in type C2 never occurs in *Beowulf* and in only two verses in the *Riddles*. The statistical significance is calculated at 1.4. Resolution on C2 types is probably the result of pure chance.

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[257] See Table 67 on page 60.

[258] See "The Light Foot and its Strings of Unstressed Syllables" on page 60.

3.1.16. The D Types

The type has 8 different variants; each one of these variants is considered an individual type. They vary with regard to the number of positions, the number of stresses, and the form of the compound foot. The group of D types as a whole occurs with many more tokens in *Beowulf* than in the *Riddles*. The distribution of the individual D types, however, is statistically very similar. Figure 48 shows the corresponding percentages.

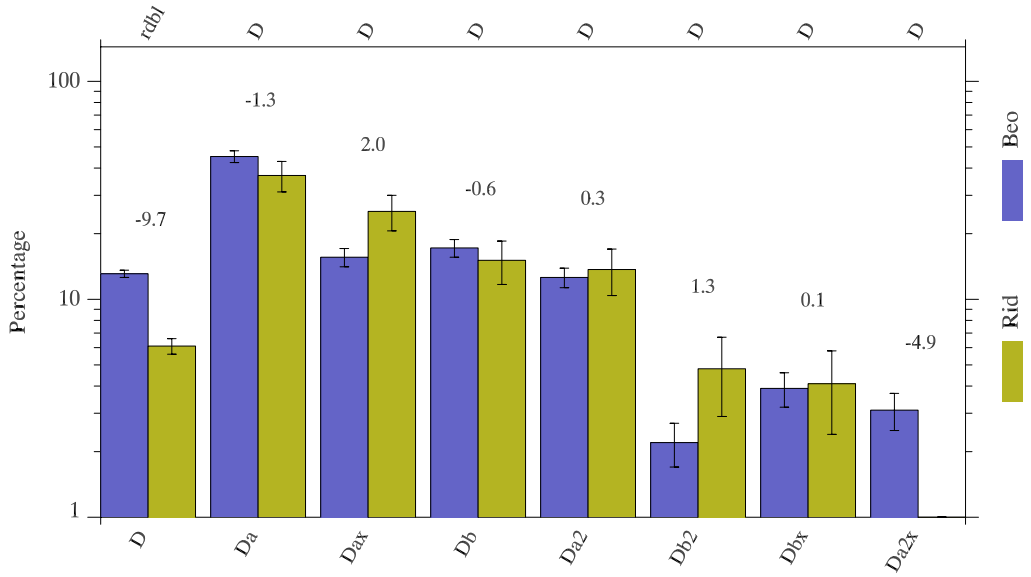

Figure 48: Percentages of D types. Normalization labeled in the top row. Percentages in logarithmic array.[259]

The frequency of the entire group is very much larger in *Beowulf*. The *Riddles* have only 6.1% D types of all readable verses, while *Beowulf* has 13.1%. The huge statistical deviation is due to the two zero results in the *Riddles*. Da2x and Db2x do not occur at all. Even with the reduced significance, if the two types are eliminated from the count, the result must be expected, since it is an established fact that the *Beowulf* poet uses about twice as many compound forms as the *Riddle* poet.[260] The distribution of the individual types show similar percentages in the two texts. Despite the larger number of D types in *Beowulf*, it is interesting to see that the percentages for the types Dax, Da2, Db2, and Dbx are slightly higher in the *Riddles*. These types have an additional unstressed syllable in the first foot or a dactylic word in the second. The discussion of the individual types and the comparison of all types will give further information on the issues concerned. In the following, each type is treated in a separate section.

3.1.17. Type Da

Type Da is the most frequent of D types in both texts. It consists of a monosyllabic stressed simplex and the most frequent compound foot Ssx.[261] It occurs less frequently in

[259] See Table 68 on page 60.
[260] See "Distribution of Compounds and Compound Feet" on page 60.
[261] See "Distribution of Compounds and Compound Feet" on page 60.

the *Riddles*. Normalized on all the readable verses, the percentages of 5.9% for *Beowulf* and 2.3% for the *Riddles* are significantly different. The significance is calculated at -8.2. In the list of the frequencies of types, type Da holds position 5 in *Beowulf* and position 9 in the *Riddles*.[262] The most frequent Da verse represents the exact underlying linguistic material as in

Beo 164b	*fēond mancynnes*	S^A/Ssx	Da
	'the enemy of mankind'		

In *Beowulf*, the type may occasionally have syllables in anacrusis or a word group on the compound foot. Figure 49 shows the calculated values for the different forms of Da verses.

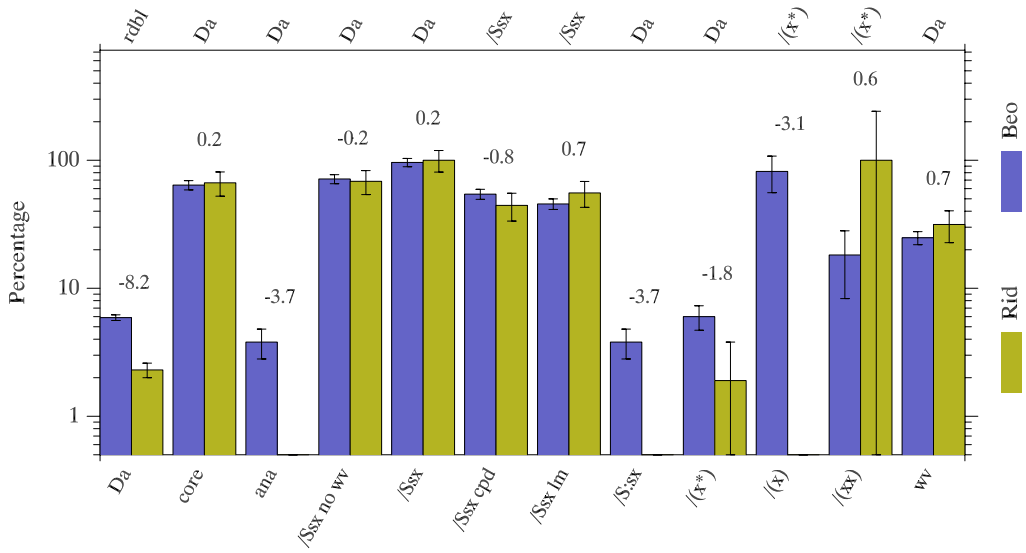

Figure 49: Linguistic material in Da. Normalization labeled in the top row. Percentages in logarithmic array.[263]

In the Da type, there are percentages with great statistical deviations and zero values for some groups of varying language material in the *Riddles*. These are discussed in the following subsections.

3.1.17.1. Linguistic Material in Type Da

Figure 49 shows that the Da type does not occur with anacrusis or with a word group occupying the second foot in the *Riddles*. Neither do the *Riddles* contain a Da type with 1 internal extrametrical syllable. The results for the groups with zero tokens in the *Riddles* are statistically significant with calculated values above -3 for each of them. The third zero result must be considered with the percentages for all the verses with internal extrametrical syllables. In the *Riddles*, there is only 1 verse with extrametrical syllables before the second foot as compared with the 22 verses in *Beowulf*. The discrepancy is almost significant: the tendency shows clearly a less frequent use of Da types with

[262] See Figure 72 on page 60 and Table 10 on page 60.
[263] See Table 69 on page 60.

internal extrametrical syllables in the *Riddles*, unlike the results for types A1 and A2a, where the number of verses with internal extrametrical syllables is by far higher in the *Riddles* than in *Beowulf*. The rigorous handling of Da and the routing of extra unstressed words to the less complex type A1 does not signal a metrical difference, but another syntactic style within the same metrical rule.

The distribution of whole-verse compounds is statistically equal with 24.8% in *Beowulf* and 31.5% in the *Riddles*. With very few exceptions, the *Riddle* poet obviously uses the most common Da variant in *Beowulf* representing the exact underlying linguistic material of the verse pattern.

3.1.17.2. Distribution of Type Da to the A-Verse

The distribution of the Da types to the a-verse shows a stronger preference for the a-verse in the *Riddles* with 77.8%. Figure 50 illustrates the distributions.

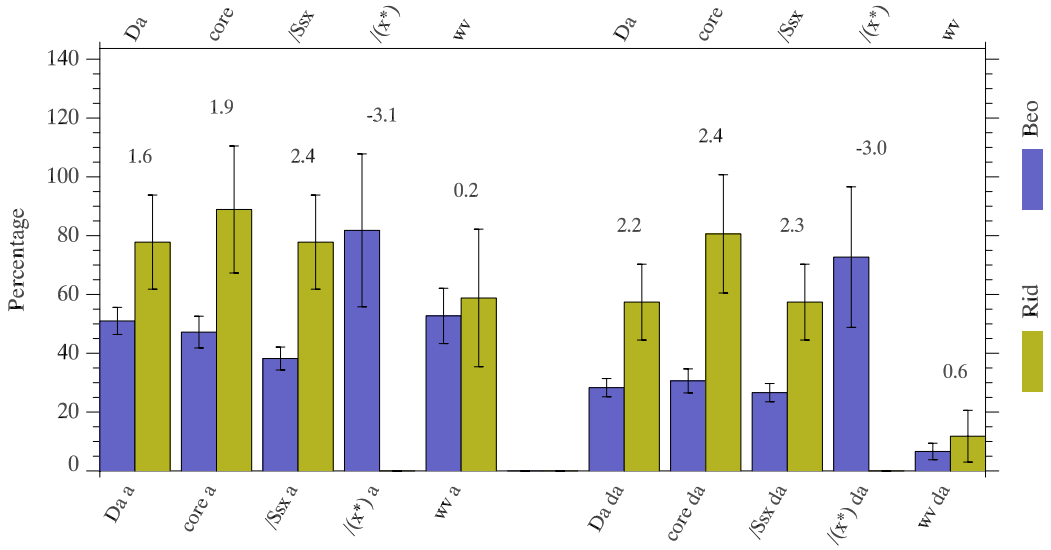

Figure 50: Distribution of Da and its variants to the a-verse and double alliteration. Normalization labeled in the top row. Percentages in linear array.[264]

In *Beowulf*, the type occurs with almost even numbers in the a- and the b-verses, with 51% in the a-verse. The discrepancy in the percentages is not quite significant, but the tendency is obvious. The same applies for the core verses and here the significance is calculated at 1.9. Almost 90% are in the a-verse in the *Riddles* and only about 50% in *Beowulf*. [265]

3.1.17.3. Double Alliteration in Type Da

Figure 50 also contains the evaluations for the verses with double alliteration in type Da. The values for double alliteration show a very clear preference in the *Riddles*. Almost 60% of the Da types have double alliteration. The percentage in *Beowulf* is only about half with almost 30%. The discrepancy is significant. A similar result is seen in core

[264] See Table 70 on page 60.

[265] See "Distribution to the A-Verse" on page 60.

verses with double alliteration. Here, the *Riddles* show an even higher percentage with 80% vs. 30% in *Beowulf*. Whole-verse compounds with double alliteration show statistically the same distribution in the two texts.

3.1.17.4. Resolution and Suspended Resolution in Type Da

The results for resolution and suspended resolution in type Da show values of equal statistical distribution for *Beowulf* and for the *Riddles*. Figure 51 illustrates the calculations.

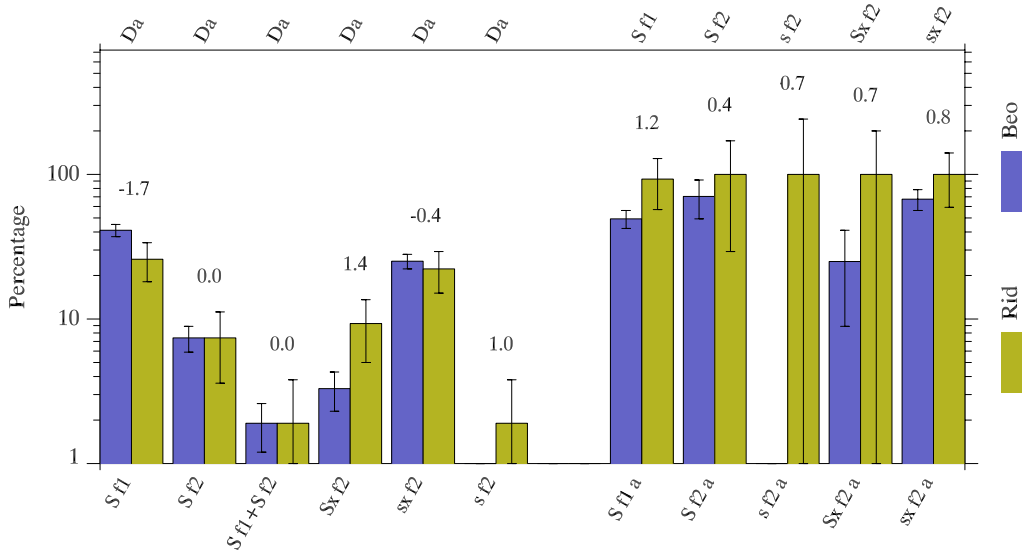

Figure 51: Resolution and suspended resolution in Da and their distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[266]

In *Beowulf*, 41% of all the Da verses have a resolved primary position in the first foot. The percentage in the *Riddles* is lower with 26%, but only shows a tentative and not a significant statistical discrepancy. The second primary position may also be resolved, but the percentage here is only 7.4% in both texts. Two resolved sequences on the primary positions occur extremely rarely with less than 2% in *Beowulf* as well as in the *Riddles.*

Suspension of resolution on the second primary position is found in 12 verses in *Beowulf* or in 3.3% and in 5 verses or in almost 10% in the *Riddles*. The discrepancy is not significant. None of these verses in either text have a resolved position on the first primary position or the secondary position. The verses with an unresolved secondary position are not as numerous as in type C, but they do occur in type Da in about 25% in both texts.[267]

No verses with a resolved s position occur in *Beowulf* and only one verse in the *Riddles*.

The Da verses with resolvable sequences have the same statistical distribution in *Beowulf* and in the *Riddles*. The resulting percentages tie in with the calculated values for

[266] See Table 71 on page 60.
[267] See Figure 46 on page 60.

all of the Da verses: they are higher in the *Riddles* throughout. Here again, only the value for the first resolved primary position yields a significance with any validity for discussion. The other calculations have too large an error for a plausible result.

3.1.17.5. Summary for Type Da

In *Beowulf*, the Da type occurs far more often than in the *Riddles*: the percentage is more than twice as high. Two thirds of the Da variants are core verses in both texts. In *Beowulf*, over 70% have a compound in the first foot. In the *Riddles*, there are no word groups at all on the compound foot. A small number of Da verses in *Beowulf* have internal extrametrical syllables and a large majority of them are a-verses. In the *Riddles*, there is only one single verse with additional syllables. The vast majority of Da types in the *Riddles* are a-verses and over 50% have double alliteration. All of these findings demonstrate that the *Riddle* poet avoids any added complexity to his Da type and alleviates the inherent complexity of the type by choosing the a-verse and double alliteration for its implementation. It is quite obvious that not only the fewer number of compounds is responsible for the small number of Da types in the *Riddles*, but also the infrequent use the poet has for this heavy pattern. Type Da often requires archaic syntax and this suggests that the *Riddles* on the whole have a different syntax from *Beowulf*. If the *Riddle* poet does use archaic syntax, it is used metaphorically as a poetic device in specific passages to describe objects related to Germanic heroism.[268]

The calculations for resolvable sequences do not show any statistical discrepancy between their application in *Beowulf* and in the *Riddles.* Only the occurrence of a resolved first primary position shows a lower number with close to statistical significance in the *Riddles*. The result is further discussed in the comparison of all types.[269] The evaluation of the calculations for type Da demonstrate the careful verse craft of the *Riddle* poet.

3.1.17.6. Type Dax

Type Dax is distinguished from type Da by an additional unstressed syllable in the first foot, i.e. it has a trochaic word in the place of a monosyllabic word. The first foot is always reserved for a disyllabic simplex, never for a word group. The second syllable of such a word group is treated as an internal extrametrical syllable before the second foot of a Da type. The Dax type ranks on position 9 in *Beowulf* and 10 in the *Riddles*.[270] It occurs with 2.1% *Beowulf* and with 1.4% in the *Riddles*. The statistical discrepancy is not significant. Most of the Dax types occur with double alliteration. A typical example is

Beo 223a	*sīde sǣnæssas* 'spacious headlands'	S^Ax/S^Asx	Dax

a verse with a trochaic simplex in the first foot and a compound on the second. The following section deals with the statistical evaluation of the language material of type Dax.

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[268] Fulk (1992: 266).

[269] See "Resolution" on page 60.

[270] See Figure 72 on page 60 and Table 10 on page 60.

3.1.17.7. Linguistic Material in Type Dax

Figure 52 shows the corresponding percentages of the various forms of language material underlying the Dax type.

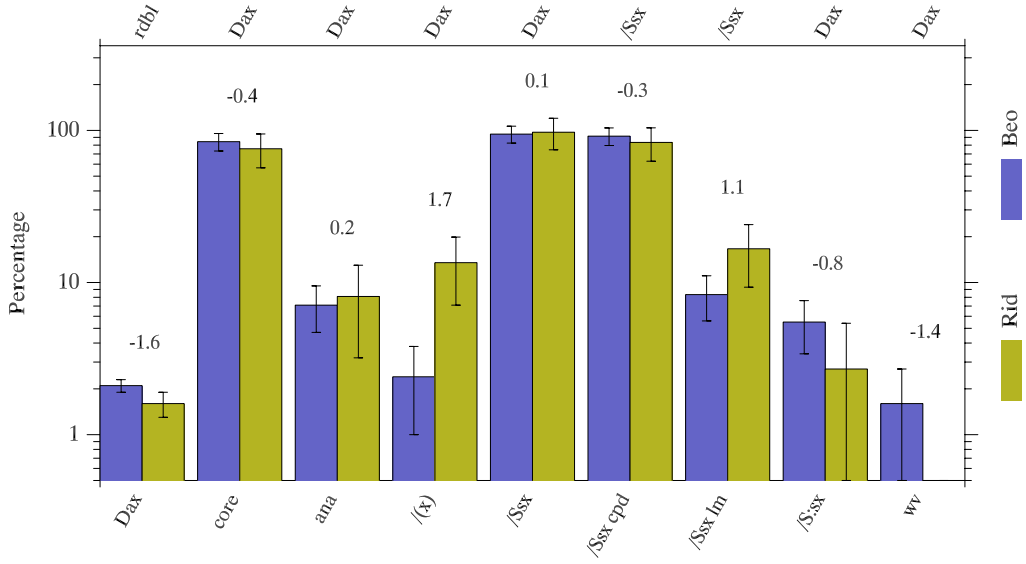

Figure 52: Linguistic material in Dax. Normalization labeled in the top row. Percentages in logarithmic array.[271]

At first glance, there are no deviating percentages in all of the evaluated numbers for Dax. Core verses occur with high percentages, with 84.3% in *Beowulf* and with 75.7% in the *Riddles*. Anacrusis is rare with less than 10% in both texts. The greatest part of the Dax verses have a compound in the first foot, the percentages are close to 100%. This means that word groups are extremely rare. None of these results show a statistical discrepancy of any significance. The variant with internal extrametrical syllables shows a tendency to have more such verses in the *Riddles*, but the numbers are so exceedingly small and the error so large that no conclusion can be drawn. The same is true for the evaluation of the whole-verse compounds. The difference cannot be taken as a valid result. The composition of the Dax type with very similar percentages of the evaluations for both texts gives evidence of careful verse craft in the *Riddles*.

3.1.17.8. Distribution of Type Dax to the A-Verse and Double Alliteration

The calculated values for the a-verses and for double alliteration are both shown in Figure 53. There is not one significant deviation in the calculations for the various forms of type Dax between *Beowulf* and the *Riddles*. Most of the Dax verses occur in the a-verse and have double alliteration. With the exception of verses with a word group and whole-verse compounds, the percentages for *Beowulf* are all between 90% and 100%. The percentages are slightly lower in the *Riddles*, but the differences are insignificant in every single instance.

The results show very plausibly that the Dax type is composed in the same way in both texts with regard to a-verses and double alliteration.

[271] See Table 72 on page 60.

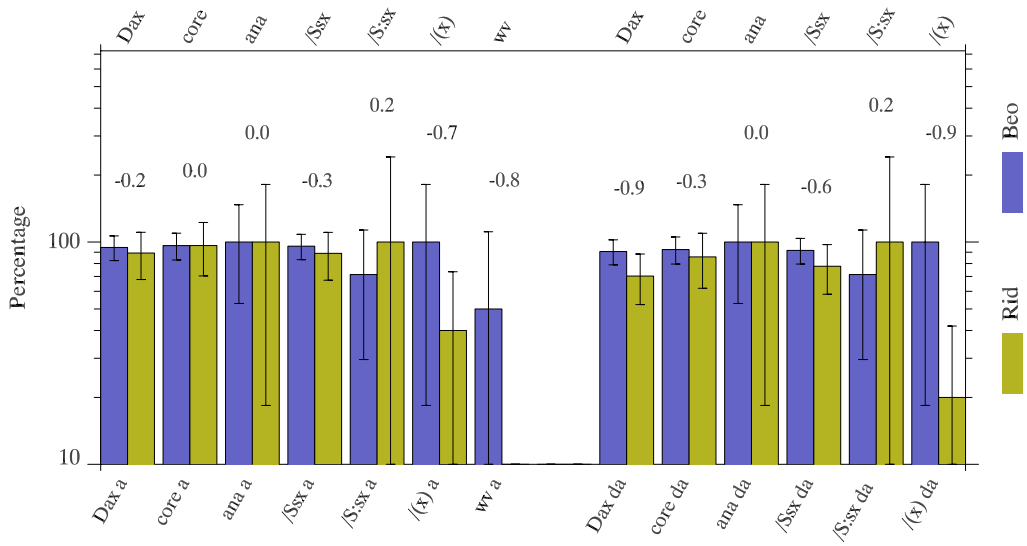

Figure 53: Distribution of Dax and its variants to the a-verse and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[272]

3.1.17.9. Resolution in Type Dax

Resolution in type Dax shows similar results as in type Da. Figure 54 includes the percentages for resolution, suspended resolution, and the distribution of the a-verses with resolvable sequences.

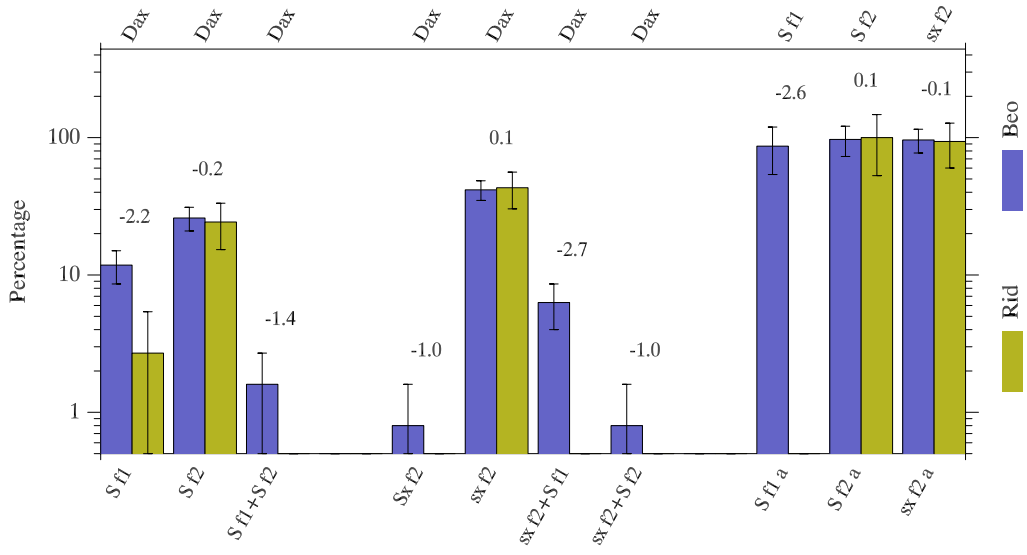

Figure 54: Resolution and suspended resolution in Dax and their distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[273]

[272] See Table 73 on page 60.

The *Riddle* text contains significantly fewer Dax verses with a resolved sequence on the primary position in the first foot, as in type Da. The discrepancy for the second resolved primary position is not statistically significant, but there are also fewer such verses in the *Riddles* than in *Beowulf*. There are no verses with a resolved sequence on both primary positions in the *Riddles*. The statistical significance of 1.4 shows a tendency to avoid such verses to a higher degree than in *Beowulf* rather than an absolute restriction.

There is only one Dax verse in *Beowulf* with an unresolved primary position, which is in the second foot and none occur at all in the *Riddles*. The calculation does not show a statistical difference. Unresolved secondary positions, on the other hand, occur in both texts with the same statistical distribution. The combination of an unresolved secondary position and a resolved primary position does not occur in the *Riddles* and resolved secondary positions do not occur in either text.

The Dax verses with resolvable sequences are mostly a-verses with percentages close to 100% in both texts with the exception of the one Dax verse with a resolved first primary position in the *Riddles*, which is in the b-verse.

3.1.17.10. Summary for Type Dax

The calculations for the Dax type and all its calculated variants show statistically different values only in the verses with resolution on the first primary position and in the variants with more than one resolvable sequence, as a consequence of the significantly fewer verses with a resolved first primary position. In all other respects, the Dax type in the *Riddles* is composed quite like the one in *Beowulf*.

3.1.18. Type Da2

The Da2 type has normative weight, but with its dactylic word pattern in the first foot, it exceeds normative length. It is one of the rare types ranking on position 10 in *Beowulf* and on 11 in the *Riddles*.[274] In *Beowulf*, it mainly occurs as core verse. Three verses are filled with a whole-verse compound and one example has a word group in the first foot. In the *Riddles*, the type occurs as core verse, accommodates a whole verse-compound once and has no word group in the second foot at all.[275] A typical example from *Beowulf* is

Beo 132b	*lāst scēawedon* '[they] saw the footprint'	S^{A}/Sxx	Da2

The type obviously represents very specific linguistic material. In fact, the vast majority of the dactylic feet are occupied by a long-stemmed verb form, either an inflected verb or an infinitive. Figure 55 shows the details of the evaluation. Type Da2 has only a share of 1.6% of all readable verses in *Beowulf* and a significantly smaller one with 0.8% in the *Riddles*. There is only one single verse in *Beowulf* with a word group on the dactylic foot and none in the *Riddles*.

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[273] See Table 74 on page 60.

[274] See Figure 72 on page 60, Figure 73 on page 60, and Table 10 on page 60.

[275] There is one verse in the *Riddles* with an internal extrametrical syllable, a configuration that is not found in *Beowulf*. However, the verse must probably be scanned as an A1 type with a syncopated short medial vowel: Rid 59.6a *hring on hȳrȩde* in analogy to long stemmed nouns like *engel* or *hēafod* that show syncopation if an inflectional ending beginning with a vowel is added (Campbell 1983: §392; Mitchell and Robinson 2001: §41).

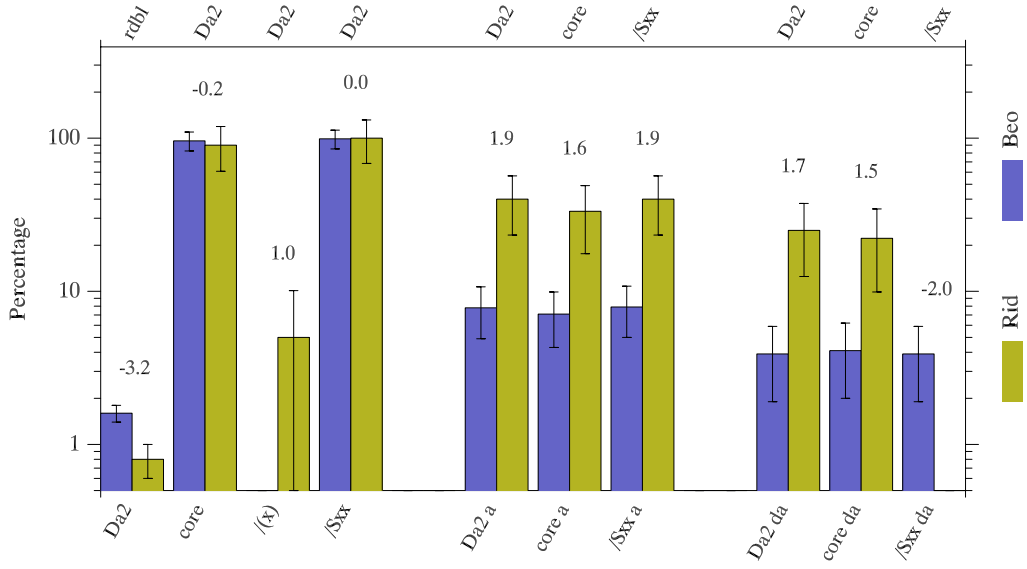

Figure 55: Linguistic material in Da2, its distribution to the a-verse, and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[276]

The distribution to the a-verse, however, does show a deviation of 1.9, which may be considered significant. Da2 types appear only rarely in the a-verse in *Beowulf* with a frequency only 7.8%. In the *Riddles*, their share is 40%. Double alliteration is rarely used in *Beowulf* and slightly more often in the *Riddles*. Of the very low percentage of Da2 types occupying the a-verse in *Beowulf*, only half are composed with double alliteration. In the *Riddles*, the percentage is a little over 60%. The discrepancy shows a value of close to statistical significance with 1.7.

The results for resolution on the various positions in Da2 show much the same distribution as in the other Da types: there are fewer resolved primary positions in the *Riddles* with a statistical significance of -1.8. The very low numbers render a statement on statistical significance difficult. The calculations are shown in Table 76on page 210.

3.1.18.1. Summary for Type Da2

The *Riddle* poet composes the Da2 type much as in *Beowulf*. The differences can hardly yield a result with the handful of concerned verses in the majority of calculations. The very small number of Da2 types in the *Riddles* is an indication that the *Riddle* poet does not use the specific syntactic structure represented by its pattern. A difference in metrical structure cannot be asserted.

3.1.19. Type Da2x

The Da2x type ranks among the very rare verses in *Beowulf*. With 0.4% of all the readable verses it is on position 12 in the list of frequencies together with other rare types.[277] It represents the metrical equivalent of the formulaic expression

[276] See Table 75 on page 60.
[277] See Figure 73 on page 60.

Beo 348a	*Wulfgār maþelode* 'Wulfgar spoke'	$S^{A}x/\underline{S}xx$	Da2x

a verse with a compound proper name in the first foot and the verb form *maþelode* or *maþelade* in the second foot. There are 25 such verses. Three additional verses occur in *Beowulf* with the same pattern except with a first foot not filled with a proper name compound.[278] Russom considers them doubtful cases; they are not included in the readable verses of *Beowulf*.[279] The type does not occur in the *Riddles*: it seems to be exclusively reserved for this particular phrase. And since the *Riddles* do not contain proper names at all, it is not needed.

3.1.20. Type Db

Figure 56 gives the corresponding percentages of the various combinations of linguistic material in typeDb.

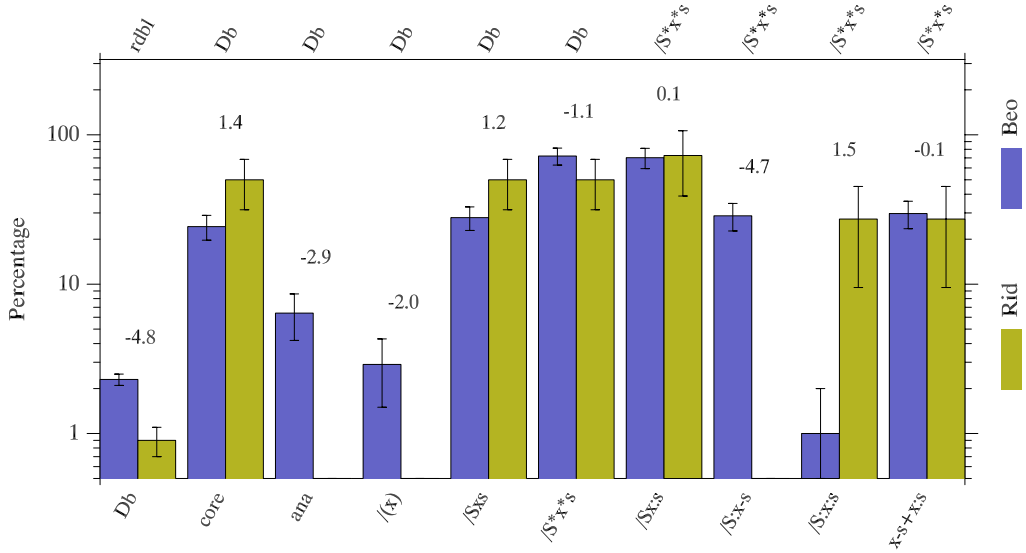

Figure 56: Linguistic material in Db. Normalization labeled in the top row. Percentages in logarithmic array.[280]

The Db type is the third most frequent of the D types after Da and the extended Dax type in *Beowulf* and in the *Riddles*.[281] It ranks on position 9 with 2.3% of all readable verses in the list of frequencies in *Beowulf* and on position 11 with 0.9% in the *Riddles*.[282] Type Db is composed similarly to the Da type and consists of a primary position in the first foot and the compound pattern Sxs in the second foot. Although this compound pattern is rather rare in Old English, its rather high frequency depends on the fact that it is very

[278] Beo 1125b, 1663b, 2671b. They are not included in the readable verses in *Beowulf*. See "Calculation of Verses" on page 5.

[279] Beo 1125.b, 1663.b, 2671.b. See also Bliss (1958: §65), Hutcheson (1995: 55, f.n.66, 142, 144, f.n.10, 175), and Suzuki (1996: 103, 444, f.n. 25, 111).

[280] See Table 77 on page 60.

[281] See Figure 48 on page 60.

[282] See Figure 72 on page 60, Figure 73 on page 60, and Table 10 on page 60.

often occupied by a word group in the most frequent Db type in *Beowulf*.[283] A typical example of this type is

Beo 18b	*blǣd wīde sprang* 'renown spread far'	S^A/Sx:s	Db

Figure 56 illustrates that in *Beowulf*, the type occurs with anacrusis, with internal extrametrical syllables, and with three different syllabic sequences on the compound foot. In the *Riddles*, no extrametrical syllables occur, neither in anacrusis nor before the second foot.

3.1.20.1. Linguistic Material in Type Db

The number of Db types in the *Riddles* is significantly lower than in *Beowulf*, as mentioned above. Core verses are about equally distributed in the two texts. The percentage is insignificantly higher in the *Riddles*.

Anacrusis and internal extrametrical syllables are not found in the Db type in the *Riddles*. Since the number of verses with extrametrical syllables in *Beowulf* is so low, the statistical discrepancies, significant or showing a value approaching significance, are difficult to interpret, owing to the large error involved. Apparently, the *Riddle* poet preferred to compose the type in the most frequent form found in *Beowulf*, i.e. without extrametrical syllables and either a word group or a compound in the first foot, each variant with equal shares. The practice might indicate a tendency already encountered in type Da, to compose heavy verses close to the core verse or close to the most frequent pattern in *Beowulf*, which again attests the careful handling of heavy types.[284]

Word groups on the compound foot Sxs of the Db type occur in three different variations in *Beowulf*. They are the same as in type B and occur in the same order of frequency:

Sx:s	a disyllabic and an monosyllabic simplex
S:x-s	a monosyllabic simplex and a prefixed word form
S:x:s	three monosyllabic simplexes

Only the first and the third in the list occur in the *Riddles*. The percentages of the word groups in the first foot show a statistically significant deviation in the second group, the one with the prefixed simplex, which does not occur at all in the Db type in the *Riddles*. In *Beowulf*, it is the second largest group and consequently the calculated significance is considerable with the value of -4.7. For the third group in the list, the one with three monosyllabic words, the percentage is tentatively higher in the *Riddles*, but the statistical discrepancy is not significant with a value of 1.5. We have seen the same phenomenon in the structure of word groups in types B and B2, where all the prefixed word forms on the compound foot show lower percentages in the *Riddles* than in *Beowulf*. The results may be considered in view of a development in the Norse tradition of a loss of infixes and of

[283] See "Distribution of Compounds and Compound Feet" on page 60.
[284] See "Summary for Type Da" on page 60.

the restricted use of prefixes.[285] The total number of word groups results in an insignificant discrepancy between the two texts.

3.1.20.2. Distribution of Type Db to the A-Verse

The calculations for the a-verses in type Db and for double alliteration are both included in Figure 57.

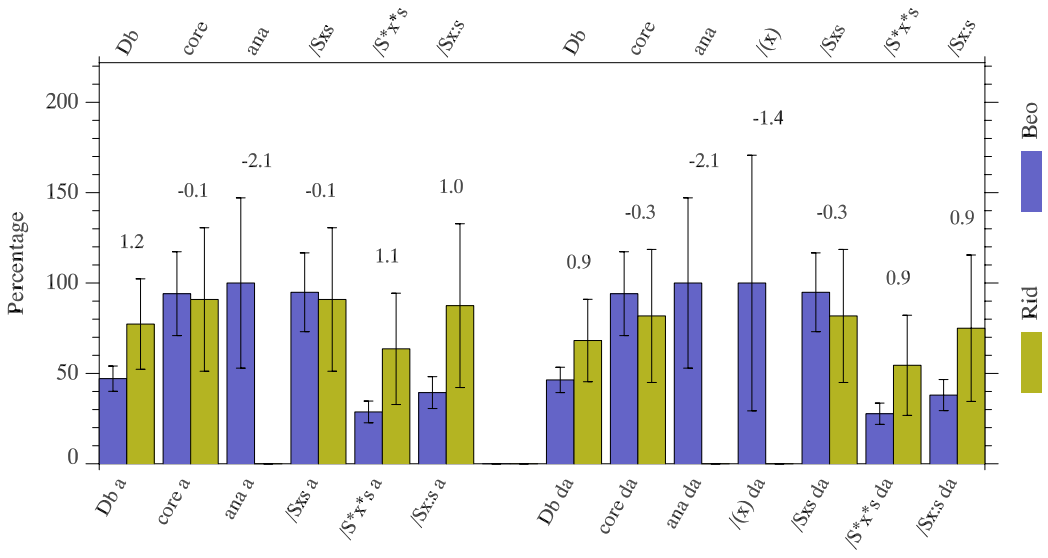

Figure 57: Distribution of Db and its variants to the a-verse and double alliteration. Normalization labeled in the top row. Percentages in linear array.[286]

The distribution to the a-verse shows a tendency in the *Riddles* to prefer type Db in the a-verse with 77.3%. In *Beowulf*, the distribution is almost balanced with 47.1% in the a-verse. The discrepancy is not significant. Over 90% of the core verses as well as those with a compound in the first foot are in the a verse in both texts. In the *Riddles*, the number is the same, since there are no verses with extrametrical syllables and consequently all verses with a compound foot are core verses. The percentages are statistically equal. The apparent significant difference in the percentages of anacrustic verses is due to the total lack of such verses in the *Riddles*. If there are no anacrustic verses at all, they cannot have a share either in the a- or in the b-verse. The result is meaningless with regard to the share in the a-verse. The distribution of the verses with the word groups in the first foot that do occur in the *Riddles* shows only a very slight tendency toward a higher percentage in the a-verse; but there is no significant deviation here either.[287]

3.1.20.3. Double Alliteration in Type Db

Figure 57 also contains the percentages for double alliteration in type Db. The 66 Db types in the a-verse in *Beowulf* have double alliteration with only one exception. In the

[285] See the discussion of word groups in type B and B2 on page 60 and 60 and "Prefixes in Word Groups" on page 60.
[286] See Table 78 on page 60.
[287] See "Distribution to the A-Verse" on page 60.

Riddles, the ratio is 15 with double alliteration out of a total of 17 Db a-verses. The calculated percentages for all the Db types are 46.4% for *Beowulf* and 68.2% for the *Riddles* with double alliteration. The deviating results are not statistically significant. They only indicate a slight tendency for a more frequent use of Db types in the a- verse in the *Riddles*. The statistical evaluation shows no significant results for double alliteration.[288]

3.1.20.4. Resolution in Type Db

The results for resolution and the distribution of verses with resolution to the a-verse in type Db are statistically equal in both texts.

In *Beowulf*, 36.4% have a resolved first primary position. In the *Riddles*, the percentage is only slightly lower with 27.3%. Resolution on the second primary position is extremely rare in *Beowulf* and it is non-existent in the *Riddles*. The proportions of Db a-verses with a resolvable sequence on the primary and the secondary positions are statistically the same in the two texts. The ratio of Db a- to b-verses with a resolved first primary position is equally the same despite the great difference in percentages.[289] Figure 58 illustrates the findings.

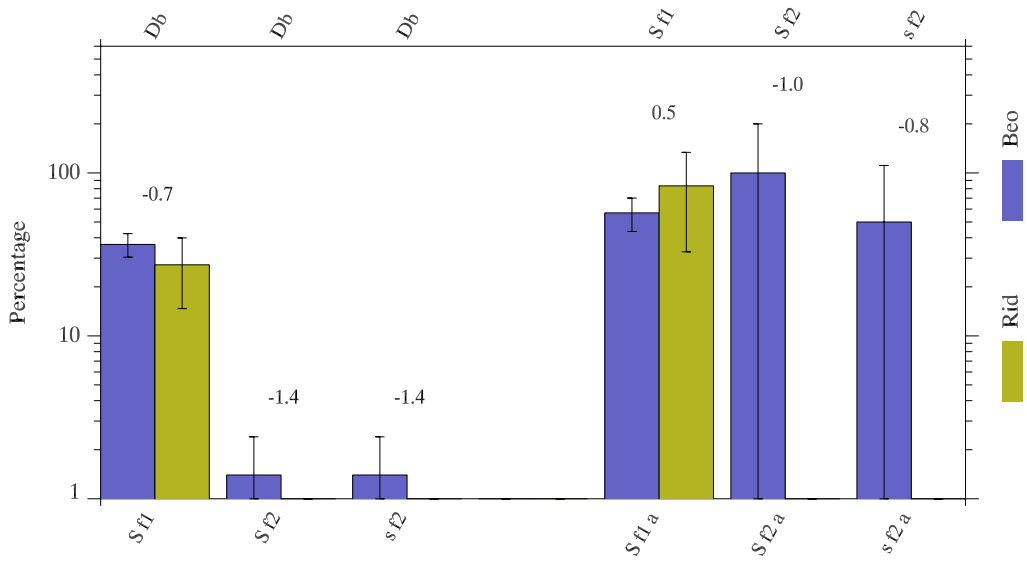

Figure 58: Resolution in Db and its distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[290]

3.1.20.5. Summary for Type Db

In the *Riddles*, type Db is composed as a core verse or with a word group on the compound foot. The acceptable addition of extrametrical syllables is avoided. The percentages for Db a-verses and double alliteration are higher for almost all the calculated numbers of the variants, although without statistical significance. With the

[288] See also "Double Alliteration" on page 60.
[289] Calculations in Table 79 on page 60.
[290] See Table 79 on page 60.

exception of 50% of compound feet with a word group, the type is used to represent the exact linguistic material. All of these results indicate that the *Riddle* poet used type Db not quite as strictly as a core verse as he did in type Da. But in the *Riddles*, type Db is composed closer to the core verse than in *Beowulf*. Resolution in the Db type in the *Riddle* text is handled in the same way as in *Beowulf*.

3.1.21. Type Dbx

The Dbx type is one of the very rare types in *Beowulf*. It occurs with only 0.5% and ranks on position 12 together with types A2ab, Da2x, and A3b on the list of frequencies. In the *Riddles*, the type is even less frequent, it takes position 13 along with the group of the rarest types.[291]

Type Dbx resembles Db with regard to the second foot that is occupied by the compound pattern Sxs, but has a disyllabic word in the first foot instead of the monosyllabic word of the Db type. The type occasionally occurs with one syllable in anacrusis, but not with internal extrametrical syllables. Word groups are found on the compound foot in half of the verses and most of them have double alliteration. A typical example from *Beowulf* is

Beo 358a	*ēode ellenrōf*	$S^{A}x/S^{A}xs$	Dbx
	'went [the] brave [one]'		

Figure 59 shows the percentages of the various syntactic structures represented by type Dbx in the two texts.

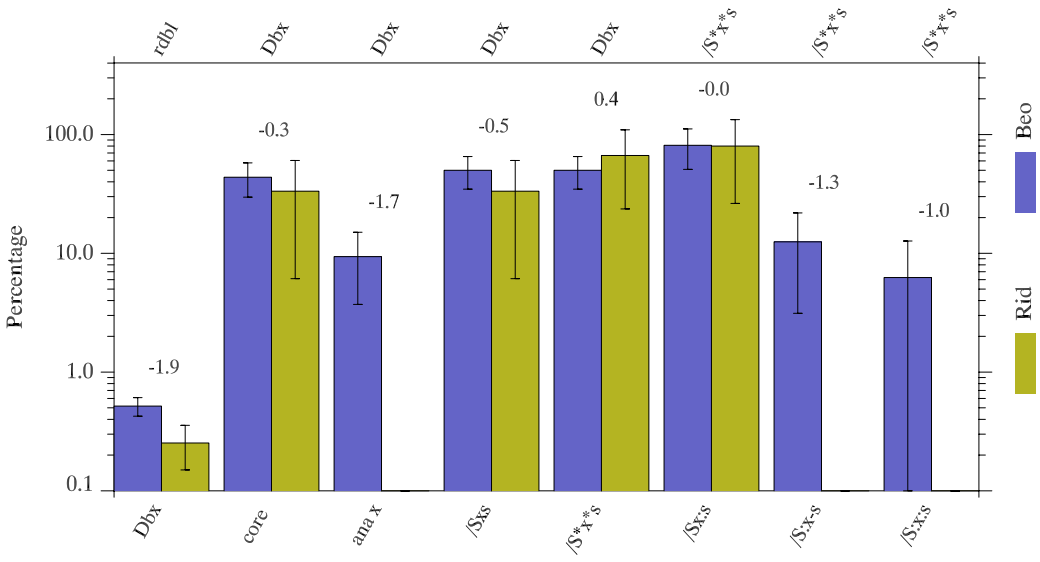

Figure 59: Linguistic material in Dbx. Normalization labeled in the top row. Percentages in logarithmic array.[292]

[291] Figure 73 on page 60 and Table 11on page 60.
[292] See Table 80 on page 60.

The Dbx type is even less frequent in the *Riddles* than in *Beowulf*, with only 6 such verses or 0.3% compared to the 32 or 0.5% in *Beowulf*.[293] The distribution is almost statistically significant with a calculated value of -1.9.

3.1.21.1. Linguistic Material in Type Dbx

The type does not occur with anacrusis in the *Riddles* and 5 out of 6 *Riddle* verses have a word group in the second foot. Although the percentage is higher in the *Riddles*, the difference is not statistically significant. The word groups show the same syntactic structure as in the Db type:[294]

Sx:s	a disyllabic and an monosyllabic simplex
S:x-s	a monosyllabic simplex and a prefixed word form
S:x:s	three monosyllabic simplexes

The last two variants do not occur in the *Riddles*. The distribution of the first group, the largest of the three, is equal in both texts with 81.3% in *Beowulf* and 80% in the *Riddles*. The lack of prefixed forms in the *Riddles* seems to hint at a general trend observed in other types. But here again, with such small numbers a conclusive interpretation is critical, even impossible.[295]

3.1.21.2. Distribution of Type Dbx to the A-Verse and Double Alliteration

The discussion of the share of the Dbx a-verses and double alliteration is based on the calculations presented in Figure 60.

The numbers of Dbx verses in the *Riddles* in the a-verse and with double alliteration are so small that a sensible explanation of the results is simply impracticable. In any case, all of the percentages are statistically equal. The few examples of Dbx types in the *Riddles* may be assumed to be implemented in the same fashion as in *Beowulf*.

The values for verses with resolvable sequences show insignificant discrepancies. There are very few resolved primary positions in the first foot in *Beowulf* and none in the *Riddles*. Both texts have each one verse with a resolved primary position in the first foot. Resolved secondary positions do not occur at all. All of the verses with resolvable sequences are a-verses in *Beowulf* and in the *Riddles*.[296]

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[293] Russom includes Beo 1114a *Hēt ðā Hildeburh* with the Dbx types despite the fact that the first foot should be reserved for a simplex and not have a word group. Moreover Beo 2107a *hwīlum hildedēor* is marked as an unusual ?Dbx type (Russom adds a preceding question mark in his electronic scansion), whereas Beo 864a *hwīlum hēaorōfe* with identical underlying linguistic material is included with the Dax types. It turns out that these are simple notational mistakes and that Beo 1114a should be scanned as B type with insignificant alliteration on the inflected verb and Beo 2107a as a regular Dbx type. I have not changed Russom's numbers, since the corrections so late into the evaluation would have implied far-reaching changes in my tables and the calculations would hardly be affected.

[294] See the discussion on page 60.

[295] See "Prefixes in Word Groups" on page 60 for a detailed discussion.

[296] Calculations for resolvable positions are shown in Table 82 on page 60.

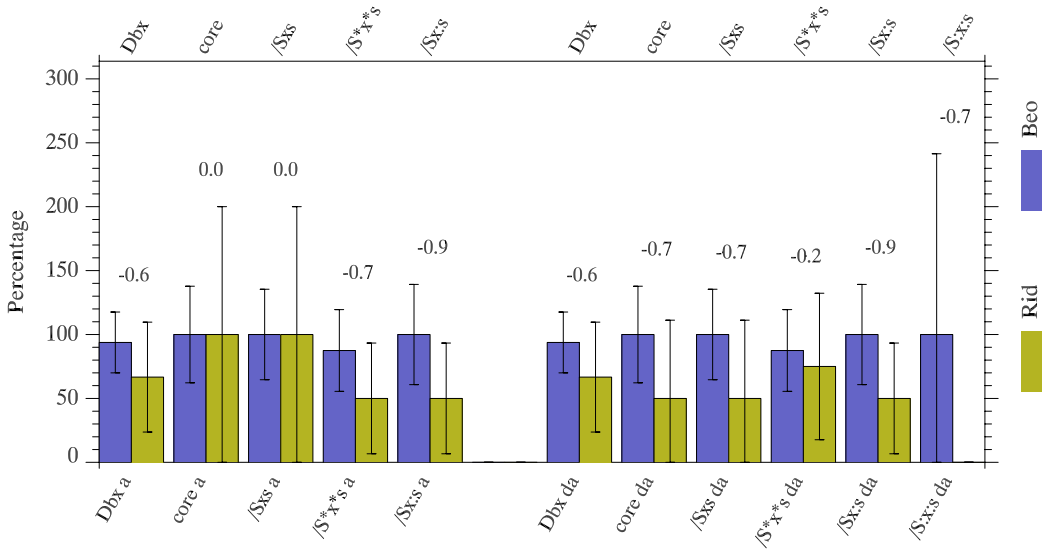

Figure 60: Distribution of Dbx and its variants to the a-verse and double alliteration. Normalization labeled in the top row. Percentages in linear array.[297]

3.1.22. Type Db2

The Db2 types with the over long compound foot Sxxs belong among the rarest types in *Beowulf* as well as in the *Riddles*. They both rank on position 13.[298] There are 18 verses or 0.3% in *Beowulf* and 7 verses or 0.3% in the *Riddles*. One of the most frequent variants is

Beo 390b *word inne ābēad* S^{A}/Sx:x-s Db2
'[he] announced the words from within'

Although the numbers are very small in the *Riddles* and a plausible explanation of the results is not feasible, Figure 61 with the percentages is included along with a brief discussion of the main points.

The compound foot of Db2 is mostly filled with a word group in *Beowulf* as in type B2. In the *Riddles*, all the Db2 types have a word group on the compound foot. The most frequent word group is the same as in B2, /Sx:x-s.[299] There are only 2 verses in *Beowulf* with a compound in the first foot.[300] The percentages do not show any significant differences for all the evaluations in Db2. The numbers are exceedingly small and valid statements are impossible to make.

Resolution is implemented in the same way in the *Riddles* as in *Beowulf*. But here again as in type Dbx, the calculations are based on very small numbers and a plausible evaluation is not possible.[301]

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[297] See Table 81 on page 60.
[298] See Figure 73 on page 60 and Table 9 on page 60.
[299] See the discussion of the word groups in type B2 on page 60 and "Prefixes in Word Groups" on page 60.
[300] Beo 387a, 729a. Both compounds are *sibbegedriht*. See also footnote 217 above.
[301] Calculations are shown in Table 84 on page 60.

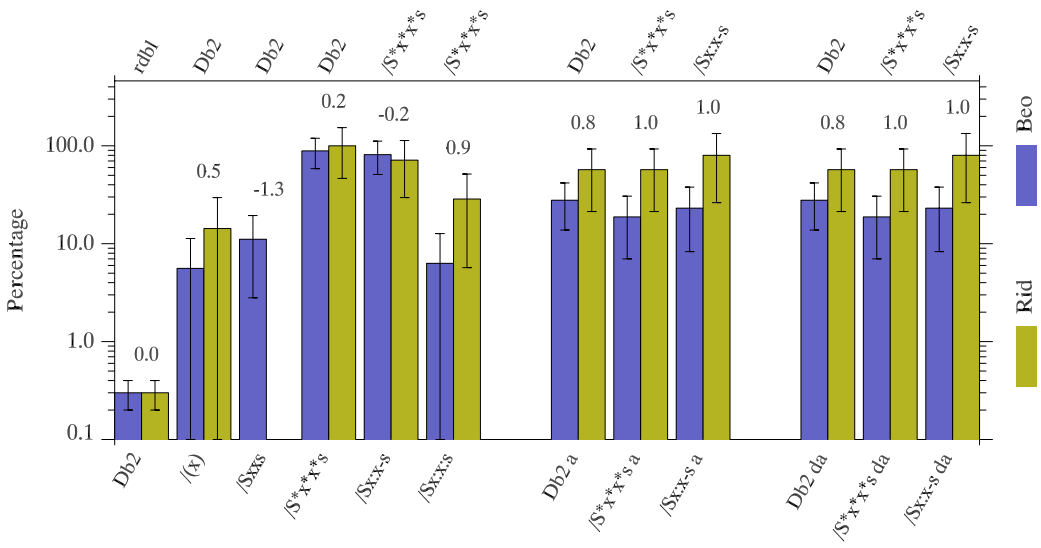

Figure 61: Linguistic material in Db2, its distribution to the a-verse and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[302]

3.1.23. Type Db2x

Db2x does not occur at all in the *Riddles* and only once in *Beowulf*

Beo 1420a	*oncȳð eorla gehwæm* 'grief to any nobleman'	$S^{A}x/S^{A}x:x-s$	Db2x

3.1.24. Type E

Type E deviates from the standard foot in a number of features. It is a long and heavy type with an unusual position of the Ssx word. Its used in archaic syntax in *Beowulf* and a majority of E types do not have additional features of complexity, such as extrametrical syllables or word groups on the Ssx foot. Despite its obvious complexity, it still ranks as the fourth most frequent type in *Beowulf* with position 4. And, quite surprisingly for such a heavy type and used for archaic morphology, it holds position 7 in the list of frequencies in the *Riddles*.[303] Despite its complexity, the type occasionally occurs with extrametrical syllables and word groups on the compound foot. The most frequent form, however, is the core verse, a sure sign that additional complexity in the variants is avoided. A typical example is

Beo 8b	*weorðmyndum þāh* 'in honor prospered'	$S^{A}sx/S$	E

[302] See Table 83 on page 60.
[303] See Figure 72 on page 60 and Table 10 on page 60.

Although the E type holds adjacent positions in the list of frequencies, it is regarded as even more complex by the *Riddle* poet, namely with 3.9% of the total number of verses as compared with 6.9% in *Beowulf*. The statistical deviation is calculated at -5.5.

3.1.24.1. Linguistic Material in Type E

The majority of E types are core verses, as mentioned above. There are 70.5% core verses in *Beowulf* and 72% in the *Riddles*. The percentages demonstrate that the *Riddle* poet regards type E as even more complex than the *Beowulf* poet, since the core verse is the least complex of all the variants. Figure 62 gives the detailed percentages of the linguistic material in type E.

The distributions of verses with internal extrametrical syllables, verses with a compound in the first foot, and verses with word groups on the compound foot have equal percentages in the two texts. There are 41 verses with extrametrical syllables in *Beowulf* or 9.6% of the E types and 9 or 9.7% in the *Riddles*.[304]

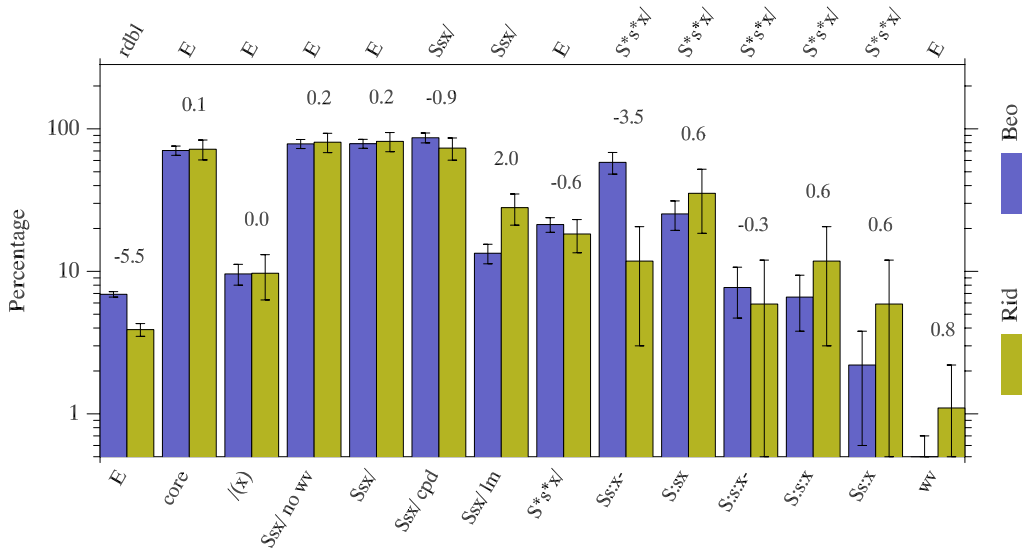

Figure 62: Linguistic material in E. Normalization labeled in the top row. Percentages in logarithmic array.[305]

The percentage for compounds in the first foot is rather high as must be expected with the vast number of core verses. 78. 7% of the E types have a compound or a simplex with a long medial syllable in the first foot in *Beowulf* and 80.6% in the *Riddles*. The distribution of compounds and simplexes with a long medial syllable within the compound foot is significantly different. The *Riddles* have more simplexes than compounds, as in type C. The archaic morphology of type E with a compound seems more complex in the *Riddles* than in *Beowulf*. In types Da and Dax the proportions are the same in the two texts. It appears that the *Riddle* poet differs in the handling of the heavy types Da, Dax, and E. The Da types are used for the Ssx compounds and types C

[304] See also "Accommodation of Additional Unstressed Syllables" on page 60.
[305] See Table 85 on page 60.

and E for all three realizations of the Ssx foot, for the compounds, the simplexes and the word groups.

Verses with word groups in the first foot occur less frequently than those having compounds, with 21.3% in *Beowulf* and 18.3% in the *Riddles*. Here as well, the low percentages indicate a tendency to avoid additional complexity in the *Riddles*, although none of the three results shows a significant statistical deviation.

The following forms of word groups are found in *Beowulf;* they are ordered according to their frequency:

Ss:x-	a disyllabic compound and a prefix
S:sx	a monosyllabic simplex and a disyllabic simplex
S:s:x-	two monosyllabic simplexes and a prefix
S:s:x	two monosyllabic simplexes and a monosyllabic simplex
Ss:x	a disyllabic compound and a monosyllabic simplex

There is only one significant discrepancy among verses of the first group with a disyllabic compound and a prefix on the compound foot, where *Beowulf* has 58.2% and the *Riddles* have only 11.8%. The statistical significance is calculated at -3.5. A lower prefix count in the *Riddles* has been evaluated in all the word groups of the patterns Ssx, Sxs, and Sxxs. The result indicates reduced use of prefixes in the language of the *Riddles* in connection with a similar development observed in Norse poetry.[306]

There is only one whole-verse compound in each text; the result is statistically non-significant.

3.1.24.2. Distribution of Type E to the A-Verse

The distribution to the a-and the b-verse shows statistically different percentages illustrated in Figure 63.

In the *Riddles*, with 58.1% of all the E types, there are significantly more a-verses than in *Beowulf*, with only 29.5% and a statistical significance of 2.8. Compounds add to the complexity of this complex type to a greater extent in the *Riddles* than in *Beowulf*, hence the higher frequency of E type a-verses in the *Riddles.*

Deviating percentages are also found for the core verses with a significance of 1.9 and naturally with the group that has a compound or a simplex in the first foot, since the core verses are included in this group. The result in this case is also significant.

The few E types with internal extrametrical syllables have a much higher percentage in the *Riddles* in the a-verse. The statistical deviation is not significant, however. The result only shows a tendency in the *Riddles* to implement this variant in the a-verse. The same holds true for verses with word groups in the compound foot. The percentages are higher in the *Riddles*, although not with statistical significance. The shares of E types in the a-verse in every variant form are higher in the *Riddles* than in *Beowulf*, if not significantly so, then with a strong tendency toward significance. The results demonstrate

[306] See "Prefixes in Word Groups" on page 60.

that all of the variants are considered more complex in the *Riddles* than in *Beowulf* and the preferred location is therefore the a-verse.[307]

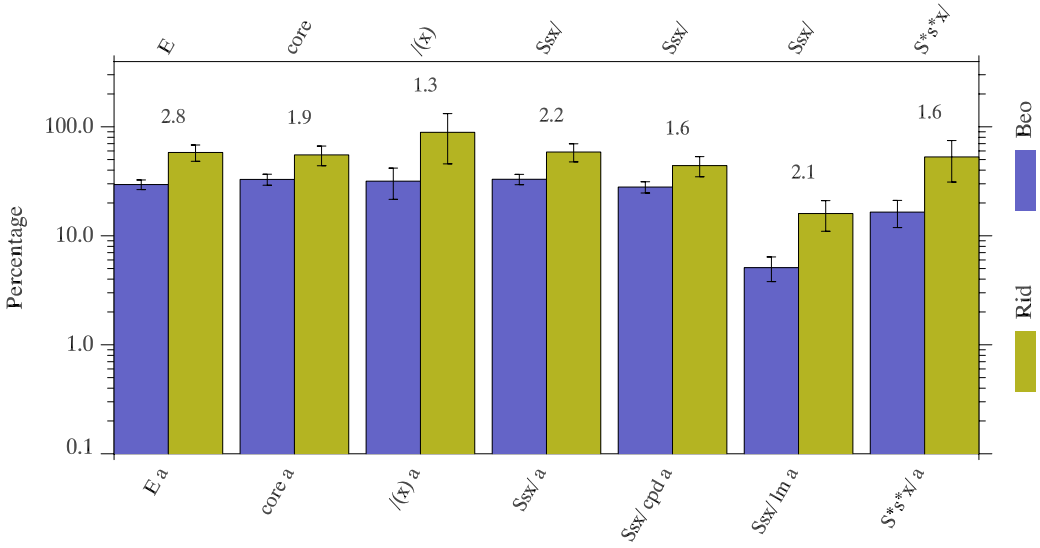

Figure 63: Distribution of E and its variants to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[308]

3.1.24.3. Double Alliteration in Type E

Type E is a special case with regard to alliteration. Three possibilities are open according to the theory, two with double alliteration and one with triple alliteration.[309] Figure 64 illustrates the percentages.

The most frequent pattern is double alliteration on the two primary positions $S^{A}sx/S^{A}$ with close to 100% in both texts. The second pattern has double alliteration on the primary and the secondary positions in the first foot $S^{A}s^{A}x/S$. The third pattern has triple alliteration with an alliterating syllable on every stressed position of the verse $S^{A}s^{A}x/S^{A}$. The two other alliterative patterns are also found in *Beowulf*, although with only one token verse each. In the *Riddles*, triple alliteration does not occur, but the second pattern, $S^{A}s^{A}x/S$, is used in 2 verses.[310] It is interesting to note that in *Beowulf*, both verses have an alliterating compound, whereas in the *Riddles*, the alliterating syllables are on two independent words. It is obvious that with only one or two examples, no statistical difference can be evaluated and the question of an actual metrical difference cannot be answered.

[307] See "Distribution to the A-Verse" on page 60.

[308] See Table 86 on page 60.

[309] See "Alliteration" on page 10.

[310] See Beo 1538a: $S^{A}s^{A}x/S$ and 743a: $S^{A}s^{A}x/S^{A}$; Rid 51.3a, 84.35a: $S^{A}s^{A}x/S$. See also "Double Alliteration" on page 60.

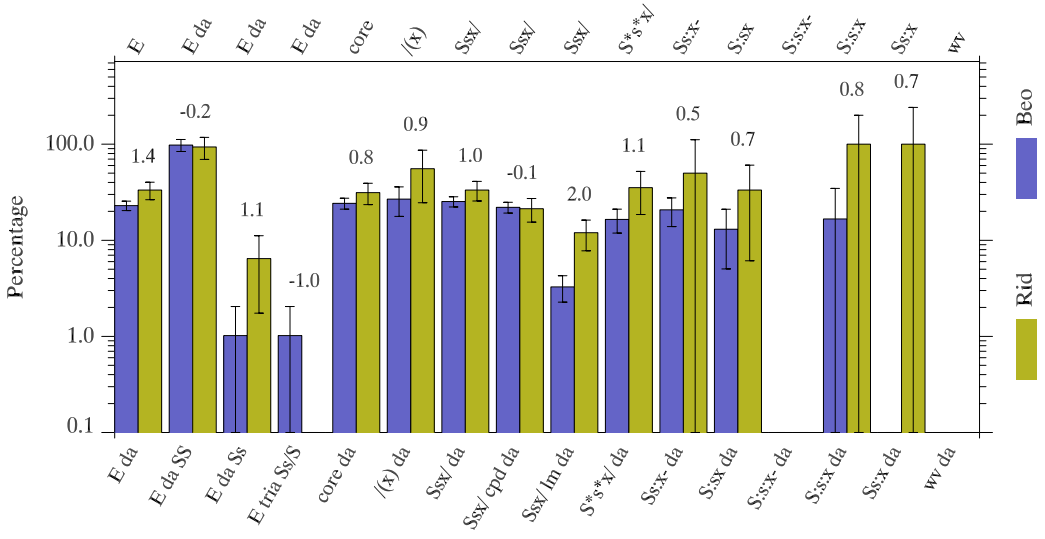

Figure 64: Double alliteration in the variants of type E a-verses. Normalization labeled in the top row. Percentages in logarithmic array.[311]

The percentages for all the E types show that there are more verses with double alliteration in the *Riddles* than in *Beowulf*, although the calculated value only indicates a tendency and not a statistical significance. Of all the variants of type E evaluated, only one of the percentages shows statistically significant deviations, namely the one with the simplex on the compound foot. The results show the *Riddle* poet's careful use of alliteration to mark the foot boundary in this type that is perceived as somewhat more complex by the *Riddle* poet, possibly because of archaic syntax.

The result is evident: it is caused by the greater number of simplexes on the compound foot and the greater number of double alliteration in type E on the whole in the *Riddles*.[312]

3.1.24.4. Resolution and Suspended Resolution in Type E

The calculations for resolution in type E do not show any statistical deviation with a significant value. A significant discrepancy is found in the result for suspended resolution. Figure 65 contains the percentages.

Quite a number of primary positions in the first foot of type E is occupied by a resolved sequence in both texts. The ratio in *Beowulf* is slightly higher, but not significantly so. The second primary position has fewer resolved sequences, 7.7% in *Beowulf* and 17.2% in the *Riddles*. Here, the difference is almost significant with a value of 1.9, indicating that there are more resolved sequences on the second primary position of type E in the *Riddles*. The result will have to be compared to those of all the other types.[313]

[311] See Table 87 on page 60.

[312] See "Double Alliteration" on page 60.

[313] See "Resolution" on page 60.

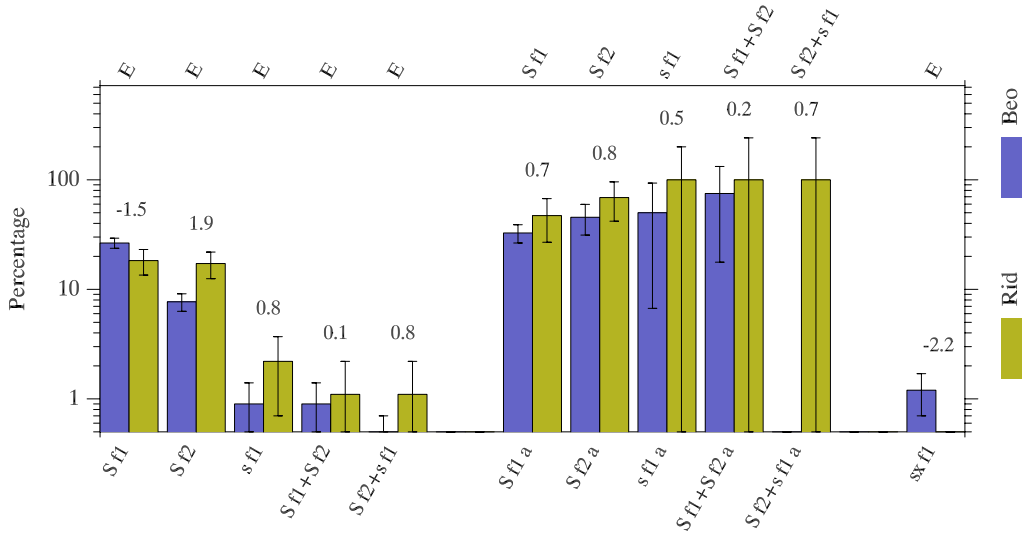

Figure 65: Resolution in E, its distribution to the a-verse, and suspended resolution. Normalization labeled in the top row. Percentages in logarithmic array.[314]

Resolvable sequences on the secondary position in the first foot are rare in *Beowulf* as well as in the *Riddles*. The discrepancy is not statistically significant. the same is true for verses with more than one resolved sequence: they are very rare in either text. The percentages are about 1% or less and there is no significant statistical difference in their distribution between *Beowulf* and the *Riddles*.

The verses of type E in the *Riddles* with resolved sequences in the a-verse show percentages of about 50% to 100% for all of the variants. The percentages for *Beowulf* are somewhat lower, between 30% and 75%, but the calculations do not show any statistical difference between the two texts.

Suspended resolution on the secondary position in type E does not occur at all in the *Riddles* and only five times in *Beowulf*. All the examples are in the b-verse. The discrepancy shows a significance of -2.2. The result calculated on very few and no examples at all does not allow the conclusion that the *Riddle* poet would never have composed such verses in a larger corpus. However, the very low number in *Beowulf* suggests that the variant is avoided to a great extent and that the *Riddle* poet, as with the core patterns, observes the practice with as much care or even more as the *Beowulf* poet does.

3.1.24.5. Summary for Type E

Type E is the fourth most frequent verse type in *Beowulf* and the fifth most frequent in the *Riddles*, although with a significantly smaller percentage in the *Riddles* than in *Beowulf*. The evaluation of its variant forms shows that the *Riddle* poet avoids additional complexity to the type more carefully than the *Beowulf* poet, who seems to consider E types somewhat less complex than the *Riddle* poet. There are significantly more type E a-verses in the *Riddles* than in *Beowulf*. All of the variants have a higher percentage in the

[314] See Table 88 on page 60.

a-verse. Double alliteration is applied tentatively more often in the *Riddles*. Both results attest to the *Riddle* poet's more acute perception of the complexity of the E type and to the different milieu of the *Riddle* poet's audience than the heroic milieu of the *Beowulf* poet's audience. The different milieu should probably be attributed to different socialization rather than to a later date of composition.

One significant difference is found in the variants with a simplexes on the compound foot, where the *Riddles* have more verses than *Beowulf*. It stems from the fact that the *Riddle* poet uses fewer compounds in his language, but uses the foot more often to accommodate simplexes or word groups, if he implements the type.

A second significant discrepancy is attested for word groups with a prefix, but the overall number of word groups has equal percentages in the two texts.

The same can be said for the type E with resolvable sequences. None of the results show a truly significant difference between the two texts. The E type is therefore composed very close to the patterns in *Beowulf*, but with even more careful avoidance of added complexity.

3.1.25. Hypermetrical Verses[315]

In *Beowulf*, 21 verses show distinctly longer syllabic sequences than any other pattern.[316] They are described in all known metrical theories as a separate type of verse, the so-called hypermetrical type.[317] Russom (1987a: 59-63) describes hypermetrical verses as consisting of two feet. The second foot is long and heavy and corresponds to a normal verse embedded in the entire hypermetrical verse. The first foot may be heavy, normal, or long, occupied by a short compound Ss, by a trochaic or a dactylic pattern Sx or Sxx. There are also verses with a disyllabic light foot. In hypermetrical patterns, Russom always assumes a disyllabic light foot, despite the fact that quite a number of the two unstressed syllables before the embedded verse consist of two monosyllabic function words and not of one disyllabic one (Russom 1998: 151f.). The structure of the strings of unstressed syllables before the light foot is discussed with the corresponding examples below.

There are 8 different hypermetrical patterns in *Beowulf*. They are listed in order of frequency:

1) an A1 type preceded by a disyllabic light foot.

There are 9 such verses as in

Beo 1163b	*þǣr þā gōdan twēgen* 'where the two good [ones]'	x:x//S^{A}x/Sx	hyp[318]

[315] The chapter includes parts of my paper published in 2000: "Hypermetrical Verse Patterns in the *Riddles* of the Exeter Book." *Notes and Queries* c.s. 245; n.s. 47: 4, 405-409. The paper addresses the distribution of the individual types of hypermetrical verses to the a- and the b-verse according to Bliss' system of scansion. Here I use the scansion according to the adopted system of Russom's scansion and my own addition. The different scansion also yields different counts. The results are therefore not quite the same in the calculations here as in the paper.

[316] Russom's scansion show only 19, owing to a simple typing error, where a single slash stands for an intended double slash that separates the first from the embedded foot. See Beo 1165b and 1168b.

[317] See for example Sievers (1887), Kaluza (1895), Pope (1942), Bliss (1958), Hutcheson (1995), Suzuki (1996).

[318] See also Beo 1164b, 1166b, 1167b, 1705b, 1706b, 1707b, 2995b, 2996b.

The verses may have up to 3 extrametrical syllables before the light foot. In the embedded verse pattern, they may also have a word group in the first foot or an internal extrametrical syllable before the second foot.

2) an A1 type preceded by a trochaic foot.

There are 4 such verses as in

Beo 1706a	*mægen mid mōdes snyttrum* '[the] strength with the mind's wisdom'	S^A:x//S^Ax/Sx	hyp[319]

Verses with this pattern also occur with a trochaic simplex in the first foot and extrametrical syllables before the embedded verse. They are here scanned as S^Ax//(x:x) S^Ax/Sx.[320] In a regular A1 verse, these syllables would stand in anacrusis. However, they are not typically prefixes or negative particles as in regular anacrusis. They should therefore be considered as internal extrametrical syllables. Another verse with this pattern has a whole-verse compound on the embedded verse scanned as S^Ax//S^Ax=/Sx.

3) an A1 type preceded by a dactylic foot.

There are 2 such verses as in

Beo 1163a	*gān under gyldnum bēage* 'going in [a] golden ring'	S^A:xx//S^Ax/Sx	hyp
Beo 1705a	*ðīn ofer þēoda gehwylce* 'your [renown] over every people'	S^A:xx//S^Ax/(x)Sx	hyp

4) an A1 type preceded by a short compound foot.

There are 2 such verses as in

Beo 1165a	*ǣghwylc ōðrum trȳwe* 'each [to the] other true'	S^As//S^Ax/Sx	hyp[321]
Beo 1168a	*ārfæst æt ecga gelācum* 'merciful in sword play'	S^As//(x)S^Ax/(x-)Sx	hyp

The last four patterns each occur in one single verse.

5) a Da type preceded by a trochaic foot

Beo 1166a	*æt fōtum sæt frēan Scyldinga* 'sat at [the] feet [of the] king of the Scildings'	(x)S^Ax//(x)S^Ax/Ssx	hyp

This verse cannot be scanned with a dactylic word group in the first foot instead of a trochaic first foot and an extrametrical syllable before the second foot:

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[319] See also Beo 1706a, 1707a, 2995a, 2996a.

[320] Russom does not indicate the location of internal extrametrical syllables in the scansion of the hypermetrical verses. I added them to my own database according to the general rules and use them here. The same goes for the scansion of whole-verse compounds. See also "Notational System" on page 12.

[321] Russom scans it as Sx//Sx/Sx. I am sure that this is a simple typing error, since this and a number of similar compounds in verse-initial position are scanned with the second constituent as a secondary stress. See Beo 287b, 874b, 987b, 1059b, 1513b, 1865a, 2564b, 2624a, 3135a. For his assignment of secondary stress to second constituents of compounds see Russom (2001).

Beo 1166a	*æt fōtum sæt frēan Scyldinga* 'sat at [the] feet [of the] king of the Scyldings'	(x)S^Ax:x//S^Ax/Ssx	hyp

Although the vast majority of 3A types Sxx/Sx does indeed occur with a word group on the dactylic foot, the form Sx:x does not occur at all according to Russom's scansion. The second unstressed position would be considered an internal extrametrical syllable before the second foot of an A1 type as in Sx/(x)Sx. The Dax type, on the other hand, does occur with anacrusis, albeit rather rarely, with only 7% of all the Dax types and, of course, never with a finite verb as anacrustic syllable.[322]

6) a Da type preceded by a disyllabic light foot

Beo 1168b	*Spræc ðā ides Scyldinga* 'Spoke the lady of the Scyldings'	x:x//$\underline{S^A}$/Ssx	hyp

7) a 3A type preceded by a trochaic foot

Beo 1164a	*sæton suhtergefæderan* 'sat nephew and uncle'	S^Ax//S^Axx-=/$\underline{S}$x	hyp

8) an A2a type preceded by a disyllabic light foot

Beo 1165b	*Swylce þær Unferþ þyle* 'Also there Unferth [the] spokesman'	xx:x//S^As/$\underline{Sx}$	hyp

Hypermetrical verses usually occur in clusters. In *Beowulf*, there are three of them: first, Beo 1163a-1168a, with a regular Db verse in Beo 1667a,[323] second, Beo 1705a-1707a, and third, Beo 2995a-2996a. In the *Riddles*, there is only one cluster of six hypermetrical verses with two normal verses in the a-verse of the second and the third line:[324]

Rid 16.1a	*Oft ic sceal wiþ wǣge winnan* 'Often I must struggle against wave'	x:x:x:x//S^Ax/S^Ax	hyp
Rid 16.1b	*ond wiþ winde feohtan* 'and fight against wind'	x:x//S^Ax/Sx	hyp

[322] The choice of the first scansion is also justified in consideration of Suzuki's (1996: 356) claim that hypermetrical verses are "a combination of two normal verses in such a way that the last two positions of the first normal verse and the first two positions of the second normal verse overlap". If the verse is scanned as (x) S^Ax//(x) S^Ax/Ssx, Suzuki's combination would apply and yield the two independent verse types A1 with anacrusis and internal extrametrical syllable (x) S^Ax/(x) S^Ax and Dax with anacrusis (x) S^Ax/Ssx. The problem of a finite verb on an extrametrical syllable remains. I only found the auxiliary *wæs* on internal extrametrical syllables in *Beowulf*. See also Suzuki's (1996: 363) discussion of the "anomalous" verse.

[323] Some editors and metrists believed that a cluster of hypermetrical verses may not include normal verses and proposed emendations. Beo 1667a is one of them. See the discussion of Rid 16.2a and 3a in the footnotes 325 and 326 below. See also Hutcheson (1995: 317) on normal verses within clusters of hypermetrical verses.

[324] The focus here is on the cluster. The few isolated overburdened verses I found in the *Riddles* are disregarded here. They are longer and heavier than accepted normal verses, but do not correspond to an accepted hypermetrical pattern.

Rid 16.2a	*somod wið þām sæcce* 'together with them [in] contest'	$\underline{S}^{A}$:x/(x)S^{A}x	A1[325]
Rid 16.2b	*þonne ic sēcan gewīte* 'when I go to find'	xx:x//S^{A}x/(x-)Sx	hyp
Rid 16.3a	*eorþan ȳþum þeaht* 'earth covered by waves'	S^{A}x/S^{A}x:s	Dbx[326]
Rid 16.3b	*mē biþ sē ēþel fremde* '[to] me this home is foreign'	x:x:x//S^{A}x/Sx	hyp
Rid 16.4a	*Ic bēom strong þæs gewinnes* 'I am strong in this battle'	x:x//S^{A}:x/(x-)Sx	hyp
Rid 16.4b	*gif ic stille weorþe* 'if I remain still'	x:x//S^{A}x/Sx	hyp

Each of the six hypermetrical verses corresponds to an accepted hypermetrical pattern, but they all belong to the patterns with a disyllabic light foot.

Table 7 shows the distribution of the hypermetrical verses to the a- and the b-verse in *Beowulf*. The table demonstrates quite a rigorous rule in the distribution of the heavy and the light types of hypermetrical verses.

[325] Verse 16.2a poses a problem. In the manuscript, 16.2a reads *somod wið þām sæcce* and scans as S:x:x/Sx, a normal A1 verse that is paired with the following hypermetrical verse. John C. Pope felt that if one verse in a line was hypermetrical, the other had to be hypermetrical as well, and some editors of the *Riddles* emend in order to bring 16.2a into conformity with this rule. Trautmann (1915: 78) suggested the emendation of the verse to *somod wið þām sæcce [fremman]* (following Toller's note to *sæccan*) scanned as the regular pattern S:x//(x)Sx/Sx. Holthausen (1911: 169), Pope (1942: 102), Williamson (1977: 178), and Muir (1994: 299) accept it. A very similar verse in *Judith*, where we find a number of hypermetrical verses, would support the emendation (see *Judith* 288a). Kaluza (1895: 378), Pinsker and Ziegler (1985: 38), and Krapp and Dobbie (1936: 330) however, follow Klaeber's (1950: 429) suggestion (that *sæcce* is a form of the weak verb *sæccan*) removing all purely grammatical grounds for the emendation. Bliss (1958: 162) does not include it in his list of hypermetrical verses in the *Riddles*, obviously scanning it as a normal verse. If Klaeber is right in his assumption an emendation seems unnecessary, since pairings of hypermetrical with normal verses within clusters occur too often to be rejected as unmetrical patterns. In this case, however, the hypermetrical verse is isolated between two normal verses, which is not the general Old English practice, where clusters of hypermetrical verses surround an isolated normal verse. So, the scansion of 16.2a as a normal A1 verse marks a significant departure from the general rule. Although I retain the scansion as an A1 type in the further discussion, it should be noted that assuming a scribal error and scanned with the emendation, the verse occupies the normative a-verse location of the heavy hypermetrical pattern. It would not in anyway contravene metrical rules. On the contrary, the first four verses of Rid 16 would form one solid cluster of hypermetrical verses.

[326] Verse 16.3a is also emended by Trautmann (1915: 78) to *eorþan ȳþum þeahte* (MS *þeaht*) in order to establish concord between the noun *eorþan* and the past participle *þeahte* (str.a.sg.f.). The emendation renders a hypermetrical pattern, that is, from a normal expanded Sx/Sxs in the manuscript reading to a regular hypermetrical Sx//Sx/Sx. Neither Krapp and Dobbie (1936), nor Williamson (1977), Pinsker and Ziegler (1985) or Muir (1994) see a reason to emend. However, the emendation would do away with the isolation of the previous hypermetrical verse, which is clearly against the normal practice. The scansion as a hypermetrical verse would also yield a regular pattern in the normative location as with 16.2a mentioned in footnote 303.

Table 7: Hypermetrical Verses in *Beowulf*

Line	Verse	Pattern	Line	Verse	Pattern
1163	a	Sxx//Sx/Sx	1163	b	xx//Sx/Sx
1164	a	Sx//Sxx/Sx	1164	b	xx//Sx/Sx
1165	a	Ss//Sx/Sx	1165	b	xx//Ss/Sx
1166	a	Sx//S/Ssx	1166	b	xx//Sx/Sx
			1167	b	xx//Sx/Sx
1168	a	Ss//Sx/Sx	1168	b	xx//S/Ssx
1705	a	Sxx//Sx/Sx	1705	b	xx//Sx/Sx
1706	a	Sx//Sx/Sx	1706	b	xx//Sx/Sx
1707	a	Sx//Sx/Sx	1707	b	xx//Sx/Sx
2995	a	Sx//Sx/Sx	2995	b	xx//Sx/Sx
2996	a	Sx//Sx/Sx	2996	b	xx//Sx/Sx

In *Beowulf*, the distribution follows the general patterning of hypermetrical verses very strictly: heavy patterns (first foot S*) in the a-verse and light patterns (first foot xx/) in the b-verse, just as the evaluations of several metrists would lead us to expect.[327]

Comparison with the table of the hypermetrical verses in the *Riddles* yields quite a different picture. In the *Riddles*, only one pattern occurs, the statistically most frequent light type xx//Sx/Sx in *Beowulf*, and it is not restricted to the b-verse, in stark contrast to *Beowulf*, where all hypermetrical a-verses begin with an S position.[328]

Table 8: Hypermetrical Verses in the *Riddles*

Line	Verse	Pattern	Line	Verse	Pattern
1	a	xx//Sx/Sx	1	b	xx//Sx/Sx
2	a		2	b	xx//Sx/Sx
3	a		3	b	xx//Sx/Sx
4	a	xx//Sx/Sx	4	b	xx//Sx/Sx

It remains to be seen in what way the other metrical features of this particular hypermetrical verse pattern correspond with the findings from *Beowulf*. Figure 66 gives the evaluation of the percentages for the various hypermetrical variants.

The number of hypermetrical verses in the two texts is statistically equal: they both have a share of 0.3% of all readable verses. The percentages for all the light types xx//* in *Beowulf* as well as those for the only pattern xx//Sx/Sx in the *Riddles* do not show a statistical discrepancy either. Although not significant, the result of the fourth column indicates that the one hypermetrical verse in the *Riddles* is the most frequent light type in *Beowulf*, with 81.8% of their total number.

The linguistic material shows equal percentages for all the variant forms of the hypermetrical verse with a light foot with the exception of the verse with a string of 5 unstressed syllables in the light foot. There are only 1 and 2 extrametrical syllables in the *Riddles*, but up to 3 in *Beowulf*. The result only indicates a tendency toward statistical

[327] Pope (1942: 126 n.12), Bliss (1958: 158ff.), and Russom's electronic scansion (n.y.).

[328] The large number of hypermetrical verses in *Judith* show the same distribution as in *Beowulf* with only one exception (Bliss 1958: 159).

significance. It must be noted that all of theses evaluations are based on very small numbers that render an interpretation very close to conjecture.

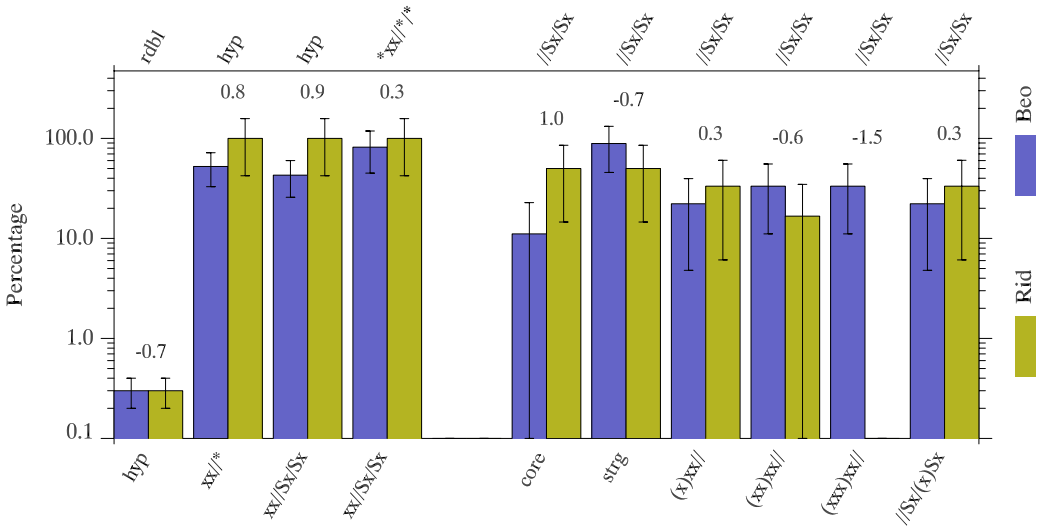

Figure 66: Hypermetrical verses. Normalization labeled in the top row. Percentages in logarithmic array.[329]

The occurrence of this particular light hypermetrical verse in the *Riddles* may well have something to do with the overall higher frequency of A1 verses and of types in general that accommodate additional unstressed syllables.[330]

A possible incompatibility between hypermetrical verses and A3 b-verses in *Beowulf* and Old Norse poetry is discussed with the distribution of A3 types to the a- and the b-verse. It does not necessarily have to be a categorical restriction because of the metrical ambiguity of the overlapping first feet of the hypermetrical verse and the A3 type xx/Sx.[331] It certainly cannot be claimed for the *Riddles*, since there are hypermetrical a-verses of the from xx//Sx and A3 types in the a-verse in the same poem.

As already mentioned above, the *Riddle* poet quite obviously disregards the rules for hypermetrical verses as they are found in *Beowulf*, with regard to the distribution of specific patterns to the a- and the b-verse. The 2 a- verses in the *Riddles* are not allowed within the restrictions of hypermetrical verses in *Beowulf*. Since there is only one cluster of hypermetrical verses in the *Riddles* and percentage-wise the same low number of such verses in *Beowulf*, it is debatable, whether the restrictions in *Beowulf* represent strict rules for all Old English poetry or the personal choice of the *Beowulf* poet, as discussed in the distribution to the a-verse of A3 types.[332] The issue obviously calls for an investigation of the entire corpus of poetry that includes hypermetrical verses.

The required double alliteration for the hypermetrical a-verses in *Beowulf* only occurs in hypermetrical verses with a primary position in the first foot. One of the a-

[329] See Table 89 on page 60.
[330] See "Frequency of All Types" on page 60.
[331] See Russom (1998: 46) for problems of overlap.
[332] See the discussion in "Distribution of Type A3 to the A- and the B-Verse" on page 60.

verses in the *Riddles* has double alliteration, although it is never found in *Beowulf* on a verse with a light foot. Here as well as with the particular variant of hypermetrical verses, double alliteration might be applied much as in a regular type A1 with anacrusis.

This concludes the discussion of the individual types and their variant realizations. As we have seen time and again, there are differences in composition in the *Riddles* that often have to do with the with the addition of unstressed syllables, with the weight of the verse and consequently with compound patterns. It seems in order to include an analysis of compound forms and their distribution in the two texts.

3.2. Analysis of Compounds

It is a well known fact that the great number of compounds in *Beowulf* is a salient feature of its language. Klaeber (1950: lxiv) counts an average of "a compound in every other line" of the poem. An analysis of compounds seems in order to evaluate a range of metrical features that could provide further information about the metrical structure of the *Riddles* compared with that of *Beowulf*. The distribution of the various forms of compounds within the total of compound forms is not of great metrical interest. The results yield the shares of the various phonological structures of extant Old English compounds and their shares in the two texts.[333] What may yield insight into the metrical treatment of the various compound forms is the analysis of their number in the two texts and their stress assignment, since the second constituents of lexicalized compound forms may have secondary stress or no stress, i.e. they occupy either a compound or a simplex foot pattern. Another matter of importance is the structure of the compound foot, whether it is filled with a compound or a word group. This evaluation of a number of individual types showed a statistically different distribution of word groups in the *Riddles.* A further topic is the frequency and distribution of whole-verse compounds to the various verse types. As the concluding section of the chapter, I discuss the metrical restriction found in *Beowulf* that regulates the acceptable syllabic sequence of a compound form with regard to syllable quantity (Terasawa 1989). All of the examples from *Beowulf* and from the *Riddles* are discussed in detail.

3.2.1. Stress Assignment in Compound Forms

The scansion of compound forms is explained in detail in the introductory chapter on methods of scansion.[334] Nominal compounds have a straightforward stress assignment with primary stress on the first constituent and secondary stress on the second constituent. The delimitation of the two groups of compound forms, nominal compounds on the one hand and lexicalized forms on the other, is by no means a clear-cut one. Campbell's (1983: §88) listing of lexicalized elements is a practical method of selection.[335] In a number of cases, however, the choice between ordinary or lexicalized compound is difficult. The element *-lāc*, for example, occurs three times in the *Riddles* defined by Williamson (1977: Glossary p. 409) as *āglāc* n. 'torment, misery'.[336] He lists the forms *āglāc* as., *āglāce* [MS *āglāca*] d.s., and *āglæca* g.p. To this last form he adds

[333] See Table 90 on page 60.
[334] See "Scansion of Compound Forms" on page 15.
[335] See list on page 17.
[336] Rid 3.7a, 81.6b, 93.23a.

"or ns. of *āglæca* m. 'wretch'?". He is obviously uncertain of the form that occurs in *Beowulf* and that, according to Klaeber (1950: Glossary p. 298), is a poetic compound with the meaning 'wretch, monster, demon, fiend' and describes Grendel or the dragon. A poetic compound is never lexicalized. The element *-lāc* does indeed also occur as a noun on its own and it is difficult to determine where it retains its full semantic content as a fully lexical morpheme and where it occurs as an element with reduced semantic force and functions as a lexicalized root.[337] I follow Campbell (1983: §88) in determining the category and include the compounds with the second element *-lāc* in the category of lexicalized forms.[338] Other second constituents may cause problems with their categorization. There are four illustrative examples in *Beowulf*, where a nominal compound is on the /Sx: position of a B type, one example with *siðfæt* and three with *fyrwyt/fyrwet*. Klaeber (1950) lists both of them as compound forms. The word *sīðfæt* occurs twice in *Beowulf*, the example just mentioned in 202a and an inflected form *sīðfate* in 2639a as a regular compound form in a C type. There are two examples with *sīðfæt* and *sīðfate* in the *Riddles* with the same distribution with regard to foot patterns. The uninflected form is on the simplex pattern Sx/ in an A1 type and the inflected form on the compound foot of a C type.[339] The expression must have undergone semantic change; Hall (1960) gives a number of meanings with special reference to the late texts of Ælfric and of King Alfred's translation of Gregory's Pastoral Care. It should probably be considered a lexicalized form that is no longer recognized as a true compound, which would explain the various stress assignment. The word *fyrwyt/fyrwet* in *Beowulf* as mentioned above is in all three examples on the /Sx: position of a B type.[340] It must be considered a lexicalized form close to a simplex, since there is no example in *Beowulf* where the second constituent is on a stressed position to prove that it may have indeterminate stress. Other examples in *Beowulf* pose a similar problem. The word *gārsecg* for example occurs three times in *Beowulf*, twice on the ambiguous second foot of an A1 and a 3A type, where *gārsecg* could be interpreted as a short compound foot Ss, and once on the unambiguous /Sx: position of a B type. In the *Riddles*, the word occurs twice in an inflected form on the unambiguous location of an E type and a C type.[341] This does not mean that *gārsecg* must necessarily be a true compound, since the long medial syllable of trisyllabic words of any kind may be scanned with secondary stress.[342] Consequently, the word *gārsecg* could be regarded as an originally compound form of such advanced lexicalization that it is closer to the simplex than to the lexicalized compound form. In my assignment of compounds to the categories of nominal, i.e. true compounds, and lexicalized forms, I followed Campbell's (1983) list.[343] I also included words like *sīðfæt* and *fyrwyt/fyrwet* as true compounds. The number of problematic cases is so small that it does not affect statistical evaluation in any case.

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[337] See Kastovsky (1992: 362ff.) and Sauer (1985: 281ff.) for a detailed discussion of the problem.

[338] The compound *āglæcwīf* in Beo 1259a on the Sxs foot suggests that Campbell is right: the embedded double compound in a triple compound is usually a familiar one, and therefore probably lexicalized.

[339] See Rid 43.6a and 83.14a.

[340] Beo 232b, 1985b, 2784b.

[341] Beo 49a, 515a, 537b and Rid 2.3a, 40.93a.

[342] See "Heavy Affixes" on page 21 for the discussion of lexicalization.

[343] See list on page 17.

3.2.1.1. Distribution of Compounds and Compound Feet

According to the above explanations, true compounds should only occupy the four compound feet, whereas lexicalized forms may also occupy the foot pattern of a simplex. The distribution of the compounds to the compound feet is of interest in relation to definition of the normative foot and to variant stress assignment in the lexicalized forms. The discussion includes nominal and lexicalized compounds only.[344] Figure 67 illustrates percentages for nominal compounds.

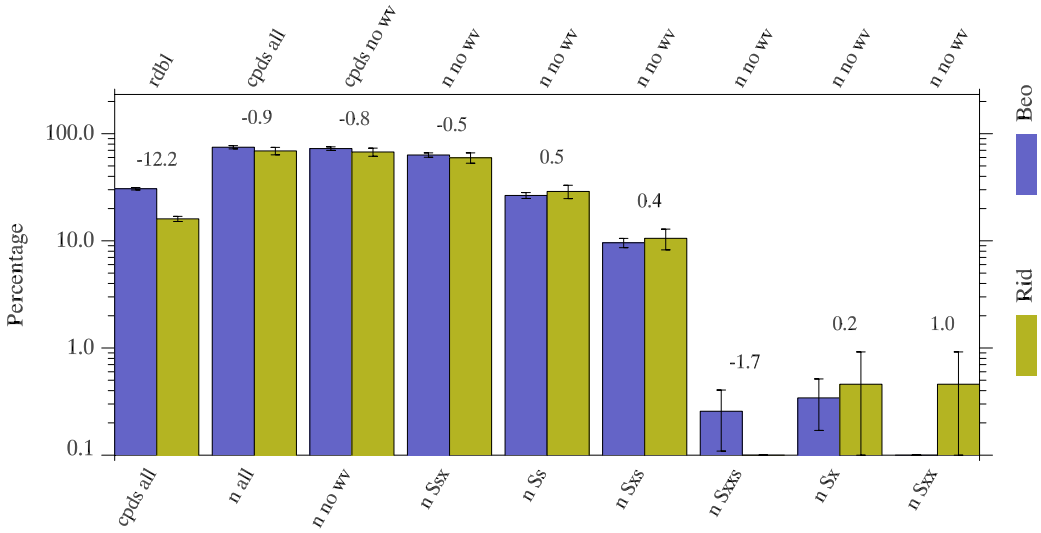

Figure 67: Nominal compounds and their foot patterns. There are no nominal compounds on the pattern compound pattern Sxxs in the *Riddles*. Normalization labeled in the top row. Percentages in logarithmic array.[345]

The first column in the plot shows the percentages for the total of compound forms in the two texts, i.e. the nominal compounds, compounds with a lexicalized root syllable as a second constituent, compounds with the interrogative adjective *hwilc*, whole-verse compounds, and compound proper names.[346] According to my count there are 1897 compound forms in *Beowulf* and 381 in the *Riddles*. With 30.7% of the readable verses in *Beowulf*, there is a compound form in almost every third verse and with 16% in the *Riddles*, in almost every fifth verse. The discrepancy is reflected in the smaller numbers of various compound verse patterns in the *Riddles*.[347]

The second column shows the percentages of the total number of nominal compounds, i.e. including those occurring in whole-verse compounds. Of all the compound forms, nominal compounds have by far the largest share in both texts with about 70% in both texts.[348] For the evaluation of the respective feet occupied by nominal

[344] Compounds with the interrogative adjective *hwilc*, whole-verse compounds, and compound proper names are not evaluated here. The first group is small, the second one is treated separately in "Whole-Verse Compounds" on page 60, and the third group does not occur at all in the *Riddles*.

[345] See Table 91 on page 60.

[346] See Table 90 on page 60 for the distribution of the various compound forms.

[347] See Figure 72 on page 60 and Figure 73 on page 60.

[348] See Table 90 on page 60.

compounds, the number of whole-verse compounds is deduced, since they consist of two compound constituents considered as two individual simplexes that fill the entire verse.[349]

The third column shows the percentages for this reduced group of nominal compounds. The statistical distribution is equal for the two texts, 72.6% for *Beowulf* and 67.5% for the *Riddles*. The same holds true for the distribution of the four compound feet. In both texts, the normative foot Ssx has about 60%, the short foot Ss has close to 30%, and the foot Sxs has about 10%. The equal distribution obviously reflects the frequency of the extant compound patterns. The *Riddle* poet may not use as many compounds as the *Beowulf* poet. However, if he does, his selection mirrors the general statistical distribution of the metrical make-up of extant compound forms in Old English. The less than 1% share of the least frequent foot Sxxs is negligible in the sum of the total.[350] However, the comparison for the most complex foot Sxxs in the two texts is informative: with only three examples in *Beowulf* and none in the *Riddles*, the statistical evaluation shows the extreme complexity of the foot or the very rare occurrence of tetrasyllabic compounds in Old English.

Although nominal compounds should occupy compound feet, there are a few exceptions in both texts. The last two columns show the calculations for nominal compounds on the normative Sx foot and the dactylic Sxx foot. There are only 4 verses with a nominal compound on the Sx foot in *Beowulf* and only 1 in the *Riddles*. And only the *Riddles* contain a verse where the compound occupies the dactylic foot Sxx. No such examples occur in *Beowulf*. The exceptions are probably due to advanced lexicalization of the compound form.[351]

Lexicalized compounds have a somewhat different distribution, since the root syllables of their second constituents have indeterminate stress and may occupy a stressed or an unstressed position. So, they do not occupy compound foot patterns alone by definition. They are found in foot patterns corresponding to the trochaic and the dactylic simplex. Figure 68 shows the percentages.

The first two columns show the distribution of lexicalized compounds in the entire text and their share in the group of all the compounds.[352] The *Riddles* have far more lexicalized compounds than *Beowulf*. The statistical significance is calculated at 6. The great discrepancy may point to a stylistic feature.[353]

The calculations for lexicalized compounds also exclude those in whole-verse compounds as explained for nominal compounds.

The distribution to the individual feet that lexicalized compounds occupy shows quite different percentages from the comparison with the distributions in nominal compounds. The shares of the two most frequent patterns Ssx and Ss are equal in the two texts as well as in relation to each other unlike the distribution in nominal compounds where the Ssx foot is by far the most frequent. In *Beowulf*, there are about 40% of Ssx and 40% of Ss feet and in the *Riddles* about 30% of each of all the compound feet. The result has no metrical importance. It reflects the structure of the lexicalized compound

[349] There is only one E type verse in each text that is occupied by a compound and a simplex constituting a whole-verse compound: Beo 2152b *eaforhēafodsegn* and Rid 55.12a *wulfhēafedrēo*.

[350] See "Deviation from the Norm" on page 60.

[351] The verses are discussed on page 60 with the scansion of compound forms.

[352] See Table 90 on page 60.

[353] See discussion on page 60.

forms. The same applies for the Sxs foot. It is even less frequent with lexicalized forms than with nominal ones. The percentages are equal in the two texts.

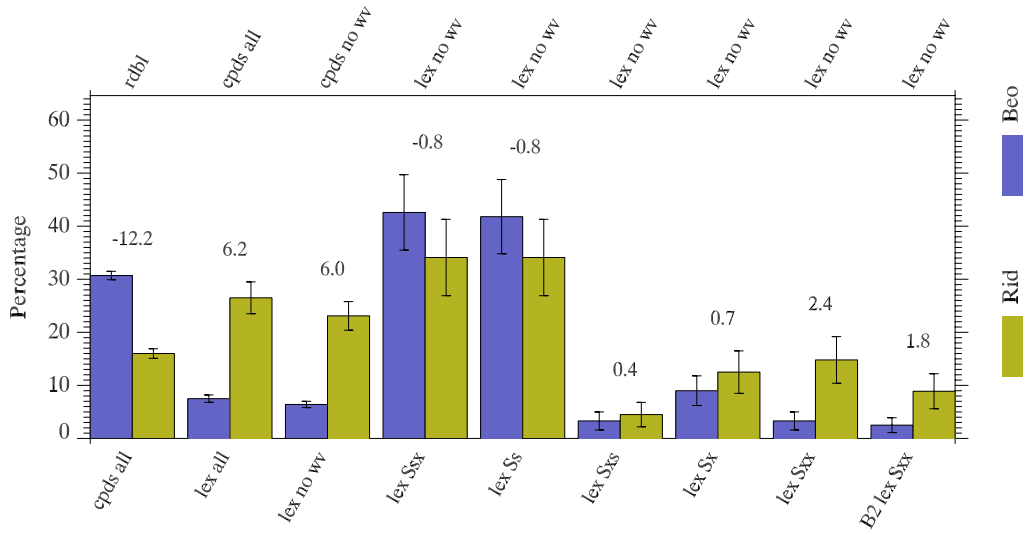

Figure 68: Lexicalized compounds and their foot patterns. Normalization labeled in the top row. Percentages in linear array.[354]

The results for the simplex feet are of greater interest. and there is indeed a statistical discrepancy with the foot corresponding to the dactylic simplex Sxx. It seems that the *Riddle* text has significantly more unstressed lexicalized roots on a dactylic foot than *Beowulf*. The difference may possibly be explained by the occurrence of the formulaic expression in five *Riddle* verses like

Rid 18.1a	*Ic eom wunderlicu wiht*	x:x/S^{A}xx:s^{A}	B2[355]
	'I am [a] wondrous creature'		

If the five verses in question are deduced from the number, the significance of the statistical distribution drops below 2. However, the difference is still there: the *Riddles* tend to have more lexicalized compounds on a dactylic foot with an almost significant percentage.

3.2.1.2. Distribution of Lexicalized Compounds with Indeterminate Stress

Both texts include a significant number of verses that contain lexicalized forms with indeterminate stress.[356] The examples with the lexicalized compound element on an ambiguous position cannot be used for a conclusive comparison. Ambiguous forms occur in verses where the assignment of both, secondary or no stress, is possible, which affects the choice of verse type, for example in

[354] See Table 92 on page 60.

[355] See also Rid 20.1a, 24.1a, 25.1.a, 29.7a.

[356] See the discussion of indeterminate stress on page 18.

Beo 637a	*eorlīc ellen* 'noble courage'	$S^{A}s/S^{A}x$ or $S^{A}x/S^{A}x$	A2a A1
or			
Beo 38a	*ne hȳrde ic cȳmlīcor* 'not heard I comelier'	x:xx:x/SAsx or x:xx:x/SAsx or x:xx:x/SAxx	C C (shortened)[357] C2

where any scansion yields an acceptable pattern, i.e. a compound form Ssx or a dactylic word Sxx in the first foot. In order to achieve a conclusive result, these verses must be excluded from the statistical evaluation. The remaining unambiguous forms are plotted in Figure 69.

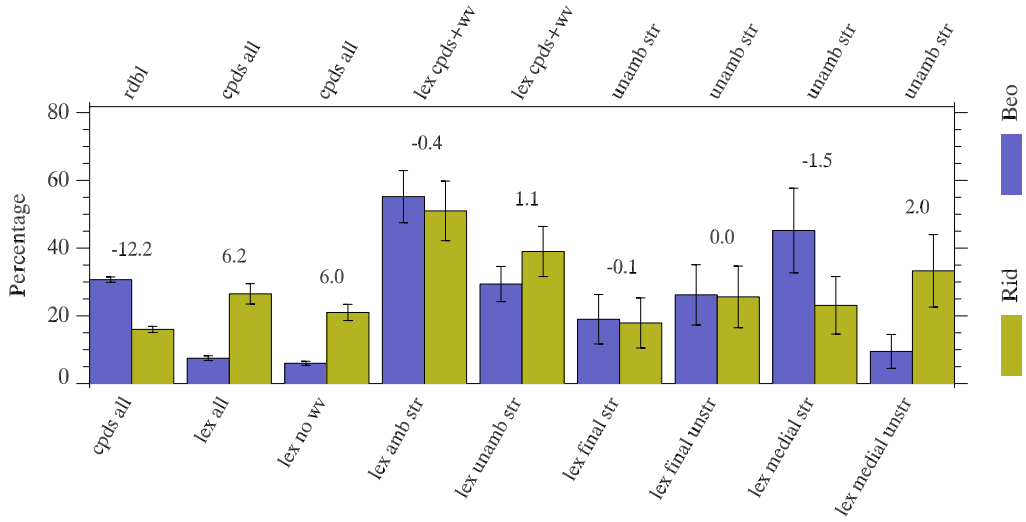

Figure 69: Lexicalized root syllables with unambiguous stress. Normalization labeled in the top row. Percentages in linear array.[358]

The first two columns illustrate, as in the previous graph, the different shares in the total of compounds and in the lexicalized compounds in the two texts. Unlike the percentages for nominal compounds, the calculation shows a far greater share of lexical compounds in the *Riddles* with a significance of 6, a sign of less archaic morphology. The discrepancy points to a stylistic feature. Among the lexicalized root syllables in compound forms, there is a far greater number with *-līc-* or *-lic-* as second constituent than any other root syllable in both texts and the number in the *Riddles* is significantly greater than that in *Beowulf*.[359] The reason for this is quite obvious. The description of the

[357] See "Suspended Resolution and Resolution in Type C" on page 60 for the definition of the shortened C type.
[358] See Table 93 on page 60.
[359] See Table 94 on page 60.

riddle object by *similes* is a common riddling device and would naturally involve the frequent use of the compound forms denoting likeness. The semi-lexical morpheme *-līc-* is related to the noun *līc* n. 'body, corpse' or 'something like another thing: similitude' or the adjective 'like, alike' (Hall 1960). So, on the one hand, the disparity in numbers might be a stylistic issue with no relation to metrical composition, but on the other hand, the choice of a suffix rather than a separate word might reflect a metrical preference.

The calculated values for the unambiguous stress, however, provide metrical information. The examples below explain the unambiguous stress position of the four categories listed in the table. The first example shows a stressed final lexicalized root syllable

Beo 303b	*Eoforlīc scionon* 'boar-images shone'	$\underline{S}^{A}s/\underline{Sx}$	A2a[360]

It is assumed that an unresolved second foot in an A verse must necessarily have two stresses in the first foot.[361] Other stressed final lexicalized roots on unambiguous positions occur in the verse types 3Ab Sxx/Ss, B x/Sxs, and E Ss:x/S in both texts.[362]

An example of an unstressed final lexicalized root syllable is

Beo 615a	*ond þā frēolīc wīf* 'and the noble woman'	$x:x/S^{A}x:s$	B[363]

Unstressed final lexicalized root syllables also occur in types B2 x/Sxxs, C x/Ssx, Dax Sx/Ssx, and Dbx Sx/Sxs.[364]

Stressed medial lexicalized root syllables only occur in type E Ssx/S.[365]. They are represented by

Beo 256a	*ānfealdne geþōht* 'simple thought'	$S^{A}sx/(x)S$	E

The last group in the table are the unstressed medial lexicalized root syllables. An example from *Beowulf*

Beo 641a	*frēolicu folccwēn* 'noble folk-queen'	$S^{A}xx/S^{A}s$	3Ab[366]

They occur in 3Ab Sxx/Ss and in B2 x/Sxxs in both texts and in 3A Sxx/Sx in the *Riddles*.[367]

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[360] See also Beo 1015a, 1287b, 1672a and Rid 1.4a, 60.9b, 73.26a.

[361] See "Suspended Resolution in Type A2a" on page 47.

[362] For 3Ab see Beo 3173a; for B see Beo 2444a and Rid 15.14a, 20.22a, 88.21a; for E see Beo 624b, 1720b and Rid 33.2a.

[363] See also Beo 821a, 1940b, 2109b and Rid 3.67a, 23.2a, 31.3a, 39.24b, 74.2a, 84.8a, 84.56a.

[364] For B2 see Beo 2441a; for C see Beo 2309b and Rid 60.11a (the verses are exceptional, see the discussion in Statistical Distribution of Verse Types on page 60, 60, and 60). For Dax see Beo 1440a, 2603a, 2825a and Rid 92.2a, and for Dbx see Beo 400a, 1627a and Rid 92.5a.

[365] See also Beo 512a, 787a, 891a, 1158a, 1271a, 1278a, 1299a, 1416a, 1429a, 1441a, 1536a, 1624b, 1959b, 1974a, 2182a, 2820b, 2890a, 3038b and Rid 28.13a, 40.85a, 41.9a, 42.1b, 42.14a, 47.2a, 47.4b, 67.2a, 67.16a.

[366] See also Beo 1426a, 2173a and Rid 31.18a, 46.4a.

[367] For B2 see Beo 1941b and Rid 18.1a, 20.1a, 24.1a, 25.1a, 29.7a, 32.5a, 40.16b, 40.69a, 87.1a. For 3A see Rid 33.1b, 61.1b.

The calculations for the various root syllables with unambiguous stress is represented in Figure 69 on page 120. The third column shows the percentages of the lexicalized compounds whole-verse compounds not included. The remaining columns show that both texts contain unambiguously stressed and unstressed lexicalized root syllables on the final position in statistically comparable numbers. Stressed syllables on the medial position are less frequent in the *Riddles* with a significance of -1.5 indicating only a tendency and not a statistical significance. They all occur in type E, the only possible location for an unambiguously stressed medial root syllable. With the compound pattern in the first foot of the verse, there is always the possibility to assign stress or no stress resulting in the ambiguous scansion of Ssx or Sxx.

A statistically significant difference occurs in the result for the unstressed root syllables on medial position. They are more frequent in the *Riddles*. The greater number may be explained by the examples in type B2 as discussed above.[368] We may therefore safely assume that lexicalized root constituents show a very similar distribution with regard to their placement on positions with unambiguous stress or no stress in final and medial positions in *Beowulf* and in the *Riddles*. The result gives good evidence for the same poetic practice in the two texts in the truly comparable situation for this particular issue.

3.2.1.3. Heavy and Light Affixes

If progressing lexicalization further obscures the semantic content of a compound constituent, the latter is no longer considered a lexicalized root constituent, but rather an affix of a simplex.[369] Short-stemmed simplexes with a heavy or light affix are scanned with resolution on the first two syllables. They occupy a primary position if they are disyllabic or a standard foot Sx if trisyllabic as in

Beo 3093a	*Cyninge mīnum* '[to] my king (d.sg.)'	$\underline{S}^{A}$x/Sx	A1

They express the linguistic material in accordance with the metrical rules. Resolution on the primary position does not add significant complexity to the verse and does not create a mismatch.[370] The long-stemmed simplexes with a inflected heavy affix, although their assignment to the normative compound foot Ssx is perfectly acceptable, still represent a certain mismatch between the linguistic material and the compound foot pattern. An example is

Beo 3a	*hū ðā æþelingas* 'how the noblemen'	xx/$\underline{S}^{A}$sx	C

A mismatch between underlying linguistic material and pattern adds to the complexity of the verse.[371] The distribution of such forms, i.e. long medial syllables on the secondary stress of a compound form, adds to the evaluation of the comparison of mismatched

[368] See Rid 18.1a on page 60.
[369] See "Heavy Affixes" on page 21 and "Light Affixes" on page 22.
[370] See "Resolution in Relation to Complexity" on page 60.
[371] See Russom (1987a: 14ff.) and my discussion in Appendix B: "Deviation from the Matching Rule" on page 60.

metrical patterns and language material. The comparison is discussed with the other mismatched foot patterns.[372]

3.2.2. Whole-Verse Compounds

A small number of verses consist of one single compound form. They occur in types A1, 3A, A2a, Da, Da2, Dax, E. The vast majority of them occur in types A1 and Da in both texts. Figure 70 illustrates the percentages for the types concerned (only including types with tokens in both texts), for whole-verse compounds in the a-verses, and for double alliteration in those a-verses.[373]

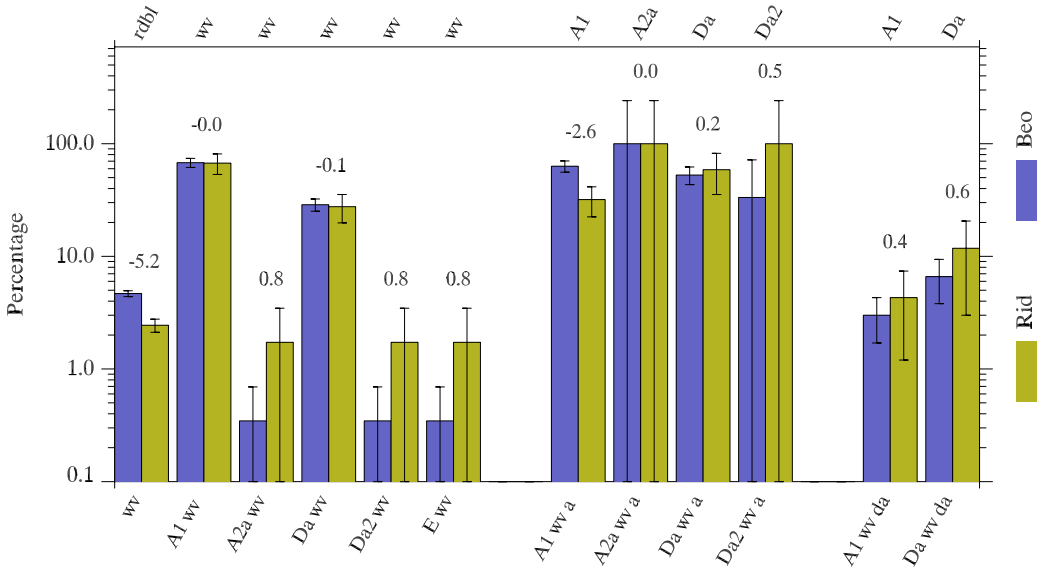

Figure 70: Whole-verse compounds, their distribution to types and to the a-verse, and double alliteration. Normalization labeled in the top row. Percentages in logarithmic array.[374]

The figure shows that there are only two significant statistical deviations in the percentages for whole-verse compounds. First, there are significantly fewer such verses in the *Riddles*, as must be expected from the smaller number of compounds on the whole. And second, a significantly smaller percentage of whole-verse compounds are in the a-verse in type A1 in the *Riddles*, where in *Beowulf* the majority of A1 verses with a whole-verse compound are a-verses. The remaining calculations show no significant deviation of any importance. On the whole, whole-verse compounds occur less frequently in the *Riddles*, but with the exception of type A1, their distribution to the a-verse is equal in the two texts and so is the application of double alliteration.

The lower frequency of A1 a-verses with a whole-verse compound in the *Riddles* ties in with the results of the other variants: all of them show an equal or a lower percentage in the a-verse in the *Riddles*.[375]

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[372] See "Mismatched Foot Patterns" on page 60.

[373] The calculated percentages for all types concerned are given in Table 95 on page 60.

[374] See Table 95 on page 60.

[375] See "Distribution of Type A1 to the A-Verse" on page 32.

It is interesting to see that the two poets do not use the same compounds with double alliteration. This means that the *Riddle* poet uses compounds of his own creation, if he uses them at all.[376] The compounds in general are not evaluated with respect to their status as poetic compounds or *hapax legomena*. The result for this small group is only a hint at the creativity in compounding of the *Riddle* poet.[377]

3.2.3. Metrical Restrictions on Compound Elements

In a detailed analysis of nominal compounds in *Beowulf*, Terasawa (1994) demonstrates that the *Beowulf* poet avoided certain combinations of compound constituents. He deduces two metrical constraints that account for the restriction:

> Constraint I: The sequence Sx-Sx is avoided in poetic compounds (Terasawa 1994: 11).[378]

Therefore, what he calls *hilde*-type first elements (Sx-) of his first constraint (Constraint I) should not combine with a following resolvable sequence Sx or Sxx as second constituent. Therefore, compounds like **hilde-wiga* Sx-Sx should not occur.

> Constraint II: The sequence Sx-Sx is avoided in poetic compounds (Terasawa 1994: 14).

Compounds of Terasawa's *beado*-type with a resolvable sequence in the first constituent should not combine with another resolvable sequence Sx or Sxx in the second constituent according to Terasawa's second constraint (Constraint II), like *mere-faran* for instance. Apparent exceptions are explained with truncation, syncopation, epenthesis or pseudo-epenthesis (Terasawa 1994: 11-15).[379] A very few cases cannot be explained; *mere-faran* in Beo 502a is indeed one of them (Terasawa 1994: 13), since it definitely violates Constraint II.

Although the list of Campbell's lexicalized root constituents contains two elements with a short stem, namely *-scipe* and inflected forms of *-sum* that might be subject to the constraints, there are no verses, in *Beowulf* or in the *Riddles* with one of these compound elements in a syllabic sequence where it violates the constraint. All of the examples occur in sequences that are not subject to the constraints. The following analysis of compounds in the *Riddles* is therefore limited to nominal compounds.

The *Riddles* contain 233 nominal compounds.[380] They are made up of nouns or adjectives. Other combinations such as prefixed nominal components are not included here, since all the prefixes that occur in such combinations are monosyllabic in the

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[376] Poetic compounds (†) and *hapax legomena* (‡) with double alliteration in *Beowulf*, listed as they appear in the text (only one form per compound is included) according to Klaeber (1950): *wīgweorþunga* †, *heardhicgende* ‡, *bearngebyrdo* ‡, *geōsceaftgāsta* ‡, *mīlgemearces* ‡, *heorohōcyhtum* ‡, *wīggeweorþad* ‡, *felafricgende* ‡, *hildehlæmmum* / *hildehlemma* ‡, *eallīrenne* ‡; in the *Riddles* according to Hall (1960) and Bessinger (1978): *hōpgehnastes* ‡, *gūþgemōtes* †, *heardhīþende* ‡, *ferðfriþende* ‡, *hrīmighearde* ‡. The same symbols as in Klaeber are used for the *Riddles*.

[377] An interesting study by Eugene Green deals with compound words, *hapax legomena*, and kennings in *Beowulf* and in the *Riddles*. His findings demonstrate the *Riddle* poet's inventiveness and craftsmanship in compounding: the ratio between compound words and *hapax legomena* is statistically equal in the two texts and the ratio between *hapax legomena* and kennings is significantly greater in the *Riddles* (Green 2000: 45-46, 48).

[378] Terasawa uses a different notation: _x for my Sx and ◡x for my Sx.

[379] See "Pseudo-Epenthesis" on page 60.

[380] See Figure 71 on page 60 and Table 96 on page 60. For the total count of nominal compounds see Figure 67 on page 60 and Table 91 on page 60.

Riddles and correspond to Terasawa's (1994: 8) *gūð*-type compounds with a monosyllabic first constituent which do not fall under either of his constraints as in

Rid 13.10a *þām þe ær forðcymene* x:x:x/S^{A}Sx C
'[to] those who before come forward'

There are 126 compounds that contain a resolvable sequence in one and/or the other of the constituents. 8 of them show the combination with another constituent resulting in the syllabic sequence that is subject to one of the constraints, either Sx-Sx(x) or Sx-Sx(x).[381] The discussion of the verses is based on Terasawa's arguments of truncation, syncopation, epenthesis and pseudo-epenthesis in order to achieve a close comparison of the issue between the two texts. Truncation is found in combinations with the constituent *hilde* for example; in *Beowulf* it is truncated to *hild* if the second element consists of a resolvable sequence Sx like *frecan* (Terasawa 1994: 4).[382] There are four verses with *hilde* as first constituent in the *Riddles* but none of them has a second element with a short stem.[383] There are no truncated forms.

Syncopation of the short medial vowel in an open syllable is the rule in *Beowulf* in long-stemmed trisyllabic words. These vowels are ignored in scansion: no metrical position is assigned to them. In short-stemmed words, however, these vowels usually remain and are treated in scansion as the second syllable of a resolvable sequence.
The distinction between syncopation and resolution is not unambiguous in words where the MS shows the short medial vowel. One example of the eight *Riddle* verses that is subject to Terasawa's constraints may possibly be explained by syncopation, since resolution is not frequently found on the secondary position in C verses (Sievers 1885a: 295)[384]

Rid 60.2a *æt merefaroþe* x/S^{A}sx C
'at [the] sea-current/sea-coast'

The word *faroþe* is attested three times in *Beowulf*, all three occurrences on positions with rather infrequent resolution (Sievers 1893: §80.), which would support the assumption of syncopation.[385] Bliss indeed scans all three of them as Sx with a syncopated vowel and not as Sx with a resolved resolvable sequence. In the *Riddles*, the word *faroðe* only occurs in the compound of our example above. The scansion with syncopation is supported by Campbell's (1983: §390) claim of vowel loss in certain "[d]isyllabic forms which can appear as monosyllables (or when inflected as disyllables)." He lists along with a number of other examples *war(o)þ*, 'shore' and *or(o)þ* 'breath', which have the same consonant cluster in the monosyllabic form as *faroþ*. An inflected form with a monosyllabic stem *farþ-* is found neither in *Beowulf* nor in the *Riddles*. This could further support the assumption of syncopation. Moreover, Suzuki (1996: 180) considers the verse

[381] See Rid 17.9a, 27.10a, 32.10a, 39.17a, 39.21b, 48.7a, 60.2a, 73.19b.

[382] Truncated forms in *Beowulf* occur in ll. 1073b (Klaeber (1950: 40) emends to *lind-* according to Kembel's edition of 1835), 1678a, 2366a, 2649a, 2835a, 2846a.

[383] See Rid 15.28b, 19.4b, 53.9b, 92.5a.

[384] See "Resolution" on page 60 and "Syncopation" on page 60.

[385] See Beo 28b (sx in C), 580a (/Sx in 3A), 1916a (/Sx in A1). In *Beowulf*, 7.5% of A1 verses and 7.9% of 3A verses have resolution on the primary position of the second foot.

Beo 28b	*tō brimes faroðe* 'the sea's current'	x/S^{A}sx	C

along with verses like

Beo 1154b	*tō scypon feredon* 'to ships [they] carried'	x/S^{A}sx	C

as subject to resolution (Suzuki 1996: 180, f.n. 11).[386] In this case, the *Riddle* verse 60.2a would clearly contravene Terasawa's constraint. If syncopated scansion is accepted, Terasawa's constraints seems to apply.

Five of the eight verses of our discussion may be explained by epenthesis. The phenomenon of the syllabic or in Sievers' term the "silbenbildende" resonants l, m, n, r of West Germanic origin is well known.[387] The first example of the group under investigation where epenthesis may be assumed is found in

Rid 17.9a	*eglum āttorsperum* '[with] hideous poison-spears'	S^{A}x/S^{A}sx	Dax

The spelling of the compound shows the objectionable sequence Sx-Sx. Basically two scansions are possible for the second foot: a) as a Dbx verse S^{A}x/S^{A}xs with a disyllabic *āttor* Sx and a resolved *sperum* s in the second foot or b) as Ssx in a Dax verse as noted above, assuming an epenthetic vowel in *āttor* occupying a primary position S and the unresolved sequence *sperum* on a sx position. Sievers (1893: §80.3b) claims that resolution on s positions ("nebentonige Glieder") is permitted but not frequent; on the secondary position in Db they are very rare. Moreover, Kaluza posits that short-stemmed disyllabic words are resolved at the end of the verse if they have a short final syllable, but unresolved with a long final syllable if they stand directly after a stressed position in the same foot.[388] Our example fulfills these requirements. If *attor* is etymologically monosyllabic, which is confirmed by the Old Icelandic (henceforth abbreviated OIcel.) cognate form *eitr*, *sperum* is immediately preceded by a stressed syllable to which it is subordinated as the second constituent in a compound (Fulk 1992: 156, f.n. 6). Note that *sperum* has a long ending. Although Kaluza's law is not a strict metrical requirement that should disambiguate verse types, it serves as support for the choice of an Ssx compound. According to Russom's rules, ambiguous linguistic material may be interpreted on the basis of foot and verse complexity. The compound foot Sxs accommodates low-frequency compounds and is therefore considered more complex than the normative Ssx foot; and resolution or non-resolution of a resolvable sequence on an s position does not add to the complexity of the verse. The choice of type would therefore fall on the less complex Ssx foot of the Dax type.[389]

Evidence from *Beowulf* also confirms the scansion without epenthetic vowel. The word *attor* occurs three times. In the first instance in an emended verse

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[386] Suzuki lists the following verses: Beo 28b, 73b, 164a, 350b, 1154b, 1158b, 1260a, 1603b, 1703a, 1833b, 1946a, 2096b, 2309b, 2796b, 2917b, 3128b.

[387] See "Epenthesis" on page 60. Detailed discussions and examples in , Sievers (1885b: 480ff.), Sievers (1893: §§79.4b and 156.4), Lehmann (1968), and Fulk (1992: 66ff.).

[388] See "Resolution" on page 60.

[389] See "Resolution in Relation to Complexity" on page 60.

Beo 2523a	*[o]reðes ond {h}attres* 'breath and poison'	$\underline{S}^{A}x/(x)S^{A}x$	A1[390]

With these emendations, the verse shows no irregularities with regard to scansion, it is a perfectly normal A1 verse with a resolved resolvable sequence on the first S position and the inflected form *attres* occupying the second foot.

The second example with *attor* is a regular A1 verse, where *attor* may be scanned with or without the epenthetic vowel: it may occupy the first primary position or the entire first foot

Beo 2715a	*attǫr on innan* 'poison within'	S^{A}:x/S^{A}x	A1
	or		
		$S^{A}x/(x)S^{A}x$	A1

The example is ambiguous in scansion. Both patterns are widely attested and the distribution of the two subtypes does not actually support a pre-epenthetic analysis, disregarding the spelled vowel; on the contrary, the second scansion occurs more frequently.[391] In fact, Bliss scans the verse as a 1A*1a with *attor* corresponding to the trochaic first foot in Sx/(x)Sx.

The compound in the third example in *Beowulf* is metrically identical to the compound in Rid 17.9a

Beo 2839a	*þæt hē wið attǫr<u>sceaðan</u>* 'that he against [the] poisonous fiend'	x:x:x/S^{A}<u>sx</u>	C

The epenthetic vowel must be disregarded in scansion as in Rid 17.9a above, in order to have an acceptable pattern. Kaluza's law is of no concern here, since it does not apply in type C. Bliss scans the verse as a d3c type, with *attor* as a monosyllabic word and with an unresolved sequence in the second constituent, which yields a shortened C type in my notational system. Fulk (1992: 158) argues that Bliss' d3 and 2C2 types are in fact identical. Scanned as a Dax verse the compound belongs to Terasawa's *gūð*-type S-<u>Sx</u> that is not subject to either of his constraints.

The second of the five *Riddle* verses where epenthesis may be assumed is

Rid 32.10a	*<u>fere</u>[ð] fōddụr<u>welan</u>* 'carries food-riches'	<u>S</u>^{A}/S^{A}<u>sx</u>	Da

The word *fōddur* is etymologically monosyllabic (ON cognate *fōðr*) and shows parasiting in this verse. The choice of compound form to disambiguate the verse type is based on the same arguments as in the previous example. The word is not attested in *Beowulf* and

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[390] Klaeber emends by adding [o] to and eliminating {h}from the MS reading *reðe ond attres*. Klaeber interprets *reðes* as a corrupted inflected form of the noun *oruð* n. 'breath' and *hattres* as a corrupted inflected form of *attor* parallel to Beo 2839 *þæt hē wið attor<u>sceaðan</u> // <u>ore</u>ðe gerēsde*, where both words occur in close proximity (Klaeber 1926: 241; Klaeber 1950: 95, note to 2523), probably an alliterative collocation of formulaic verse craft. The emendations are accepted by most editors. See Dobbie (1953), (Wrenn 1973), Mitchell and Robinson (1998). Klaeber (1950: 276) usually underdots epenthetic vowels in his edition, even in a few cases original vowels, but not in this verse. He does not comment on the issue, neither in the footnotes nor in the textual notes to the verse. Since the form *attǫr* is not disputed as a monosyllable, Klaeber's omission may possibly be explained by a printing error.

[391] See "Type A1" on page 29.

only this once in the *Riddles.* So, statistical distribution of monosyllabic or disyllabic scansion is not conclusive.

The third example with epenthesis is

Rid 39.17a *geond þās wundȯrworuld* x:x/$S^{A}\underline{s}^{A}x$ C
'throughout this wonder-world'

The compound *wundorworuld* is listed as a *hapax legomenon* in Hall (1960), but both constituents are individually attested in *Beowulf* and in the *Riddles*. The first element shows parasiting with the OIcel. cognate *wundr* and may therefore be scanned as a monosyllable, assuming its pre-epenthetic form. The scansion of the 17 occurrences of *wundor/wundr-* in 16 verses in *Beowulf* supports scansion that ignores the epenthetic vowel: 8 of them must be scanned as monosyllabic words, 1 could be either monosyllabic or disyllabic, 2 are unambiguously disyllabic words, and 5 are inflected forms, where possible parasiting could be subject to syncopation.[392] Although statistics in *Beowulf* point toward monosyllabic scansion, the numbers are very small. They may only serve as an additional argument toward the choice of type C.

In the *Riddles*, the statistical result is not conclusive: 14 verses contain the word *wundor/wunder* as a simplex or as the first constituent of a compound and 11 as an inflected form without the epenthetic vowel. The 6 examples where the word must be scanned as a monosyllable belong to the riddle formula *Ic eom wunderlicu wiht* or a variation of it. In 3 verses, *wundor* is the first constituent of a full-verse compound in an A1 verse and must be scanned as a disyllabic word. That leaves 5 occurrences, 4 of them in ambiguous types and one of them in an incomplete verse near the *lacuna* in *Riddle* 67.[393]

The word *woruld* is etymologically disyllabic with an OIcel. cognate *verǫld*.[394] It occurs 5 times in *Beowulf*, 4 times as a resolved resolvable sequence S and once as an inflected simplex with a syncopated short medial. It never occurs unresolved as in Rid 39.17a above. This does not indicate any irregularity. The small number of attested forms allows for the assumption that it is a question of statistical distribution. In the *Riddles*, we find 3 occurrences of *woruld* and 3 of uninflected *world*.[395] The form *world* is late W-S for *woruld* (Campbell 1983: §391; Fulk 1992: 241) and does not occur in *Beowulf*. Both forms *woruld* and *world* occupy the first primary position in the verses where resolution of a short-stemmed word is perfectly acceptable.[396] Since the late monosyllabic form *world* has the same metrical value as the resolvable form *woruld* (as we would expect the form to appear in an early text) the syncopated form *world* does not cause any problem in the present discussion. It might simply represent late W-S spelling substituted by the scribe for the earlier forms of the text he copied (Sisam 1953: 106). So, we may analyze the verse as a shortened C type, again on the grounds of the less complex compound

[392] Unambiguous monosyllabic scansion in Beo 771a, 840.b, 995.b, 1440.a, 1681.a (debated verse type), 1724.b (debated verse type), 1747.a, 3037.b; ambiguous monosyllabic 931.a; unambiguous disyllabic 920a, 1365b; inflected forms in Beo 931.a, 1452.b, 1509.b, 1607.b, 2768.b.

[393] Unambiguous monosyllabic scansion in formula Rid 18.1a, 20.1a, 24.1a, 25.1a, 29.7a, 87.1a; unambiguous disyllabic 29.29b, 31.5b, 40.85b; ambiguous 39.17a, 47.2b, 69.1a, 88.19a; in *lacuna* 67.5b.

[394] Holthausen (1934) lists the word as *weorold, worold* f. with the OIcel. cognate *verǫld*, "aus *wer* 'Mann' + *ald* = ais. *ǫld*, go. *ald-s* 'Zeit, Leben"'.

[395] *woruld* in Rid 26.2a, 39.17a, 84.38a; *world* in Rid 40.2b, 40.87b, 84.33b.

[396] See "Resolution" on page 60.

pattern and thus attribute Rid 39.17a to the *gūð*-type compounds S-Sx with the disyllabic constituent *woruld* as unresolved sequence. The scansion of these words in the *Riddles* shows good control of pre-epenthetic and syncopated forms and probably supports the argument of an early date of composition, despite the lower percentage of compounds and heavy types such as Da that would indicate a less archaic diction and perhaps a later date.[397] This paradox may be solved by positing a non-aristocratic, scholarly audience addressed in the *Riddles* or a less conservative milieu in which linguistic archaisms were less assiduously preserved and hence perceived as more complex from the perspective of the non-*Beowulfian* audience.

The fourth example is somewhat different with regard to its second constituent, which has an unresolved sequence of a primary position followed by a secondary position that is occupied by a derivative syllable rather than a stem syllable

Rid 39.21b	*wuldo̱rcyninges*	S^A/Ssx	Da
	'[of the] King of Glory'		

For the present discussion the scansion of *cyninges* as Ssx is considered correct, although it is debatable whether the verse should not be scanned as A1 with *wuldor* occupying the first foot Sx/ and *cyninges* as a resolved sequence and an unstressed inflectional syllable occupying the second foot Sx. The choice between a Da or a Dax type for our example poses no problem, if I follow Russom's proposition of choosing the less complex verse pattern in case of doubt. An expanded Da verse Sx/Ssx is of course possible and the expansion is indeed reserved for trochaic words. But *wuldo̱r* may be considered etymologically monosyllabic with the Gothic (henceforth abbreviated Go.) cognate *wulþrs* and it is here scanned as such. Among the 7 occurrences of *wuldor* in *Beowulf* there is 1 verse with unambiguous disyllabic scansion and 1 that must be scanned as a monosyllable. 4 verses contain the inflected form *wuldres* (gen. sg.) in syntactically identical A1 verses, and the one remaining verse is identical to our example.[398] In the *Riddles,* we find 4 ambiguous verses that may be disambiguated assuming the simpler verse type and scanned with monosyllabic *wuldo̱r*. One verse is unambiguously monosyllabic and two are inflected forms.[399] Evidence for monosyllabic or disyllabic scansion of the word is not really conclusive either in *Beowulf* or in the *Riddles*, although we may safely assume epenthesis because of the majority of possible monosyllabic scansions in both texts.

The fifth and last example of this group in which we may expect a parasitic vowel is

Rid 48.7a	*guman galdo̱rcwide*	S^A/S^Asx	Da
	'the men (n.pl.) the incantation (a.s.)'		

The word *galdo̱r* has the OIcel. cognate *galdr*. The linguistic material of this example is pretty much parallel to the first example in this group[400]

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[397] Fulk (1992: 61) adopts Cable's (1981) chronology as a base for comparison with his own results; and states that "[t]he riddles seem close in date to *Beowulf* and the early biblical narratives," despite the reasons he gives that would cast doubt on such an assumption (Fulk 1992: 408).

[398] Beo 665b; 1136a, 2795a; 17a, 183a, 931b, 1752a; 2795a.

[399] Rid 26.16a, 39.21b, 84.25b, 84.33a; 84.26a; 30.1.2a, 66.7a.

[400] See the discussion on page 60.

Rid 17.9a *eglum āttǫrsperum* $S^{A}x/S^{A}sx$ Dax
'[with] hideous poison-spears'

with the exception of the ending, which is long in Rid. 17.9a, but short in Rid 48.7a.[401]

There are two remaining examples to be discussed. the first one is

Rid 27.10a *ond wið mægenþisan* x:x/$S^{A}sx$ C
'and with violence'

The compound *mægenþisan* is a *hapax legomenon*. *An Anglo-Saxon Dictionary* (Toller 1882) lists the compound *mægenþise* f. with the translation 'violence, force', although the MS reads *mægen þisan* with a distinct gap between the two words.[402] The form *þise* is not otherwise attested as a secondary constituent, but most editors accept *mægenþisan* as a compound form (Krapp and Dobbie 1936: 336).[403] Moreover there is a compound in *Beowulf* with *mægen* as first constituent and the same syllabic sequence in the second element in

Beo 236a *mægęnwudu mundum* $S^{A}s/S^{A}x$ A2a
'mighty spear with/in the hands'

The word *mægen* is etymologically disyllabic (OIcel. forms are *magan, mėgin*). It is occasionally spelled with a syncopated vowel in the inflected form g.s. *mægnes* in *Beowulf*.[404] Terasawa (1994: 12, 19, 48) suggests that this might be a case of so-called pseudo-epenthesis that reflects a re-analysis of the disyllabic word *mægen* as a monosyllable with an epenthetic vowel *mægęn*.[405] The examples of the short-stemmed word *mægen* in *Beowulf* and in the *Riddles* are ambiguous. Apart from the example in *Beowulf* above, 25 out of 29 occurrences (2 of them are emended or metrically unusual verses) may be scanned as resolved sequences that occupy a stressed position where resolution is not usually avoided, which would support scansion as a monosyllabic word, i.e. a parasited word with the epenthetic vowel ignored for scansion. There are 4 inflected forms without the short medial vowel that might in turn support Terasawa's assumption of reanalysis.[406] The distribution in the *Riddles* is similar with the exception of the example above. There are 12 occurrences of *mægen* in the *Riddles* in addition to the example above: 10 of them occupy a stressed position where resolved scansion is

[401] The word *cwide* is a masculine i-stem with the short ending -e (Brunner 1942: 221; Fulk 1992: 420f.).

[402] See "Scansion of Compound Forms" on page 15 and the section on MS readings on page 16.

[403] Krapp and Dobbie (1936) keep the MS reading *þisan* and interpret it as part of a compound and accept the proposed semantic content. They discuss alternate readings by other editors of *þisan.*The form of the second constituent is not accepted by other editors. Grein (as quoted in Krapp and Dobbie(1936)) proposes to read *mægenwisan* "meiner kräftigen Weise" and thus changes the second element into the long stemmed word *wīse* f. 'way, fashion, custom, habit, manner' (Hall 1960) and the metrical value of the compound. Holthausen and Trautmann (as quoted in Krapp and Dobbie(1936)) follow this reading. Since Krapp and Dobbie (1936) are the chosen authorities on emendations, the verse is discussed following the MS reading.

[404] There are inflected forms with a syncopated short medial in Beo 670a, 1761b. 2084a, 2146a and in Rid 2.9a, 23.13b; there are inflected forms that keep the short medial in Beo155b, 196b, 418a, 789b, 1270b, 1534a, 1716b, 1835a, 1844a, 1887a, 2647b, 2667b and in Rid 27.14a, 40.95a, 84.21b.

[405] See "Pseudo-Epenthesis" on page 60.

[406] Resolved stressed position in Beo 155b; 196b; 418a; 789b; 1270b; 1534a; 1716b; 1835a; 1844a; 1887a; 2647b; 2667b; 518a; 1706a; 2654b; 380a; 659b; 1519b; 1625a; 2678b; 2837a; 3091b; 2917b; emended or unusual in Beo 445a and 1455b; syncopated inflected forms in Beo 670a; 1761b; 2084a; 2146a.

acceptable, and 2 verses contain the inflected form *mægne*.[407] The *Riddle* example, however, would support Terasawa's argument of pseudo-epenthesis, since Sievers (1885a: 248) claims that resolution on the primary position of shortened C types is avoided and therefore short-stemmed disyllabic words only rarely occupy its S position.[408] Bliss scans all the verses in the list according to Sievers' suggestions, adding support for monosyllabic scansion on the S position of the shortened C type. So, the assumption of monosyllabic scansion S for *mægẹn* with a pseudo-epenthetic vowel that can be ignored in scansion seems plausible for Rid 27.10a and the verse can be scanned as a shortened type C x:x/S^{A}sx. However, there is little support for this scansion from other examples in the two texts, since most of the examples in *Beowulf* and in the *Riddles* have the resolvable sequence *mægen* on a position where resolution is perfectly acceptable.

The second example from the *Riddles* of a compound with two resolvable sequences Sx-Sx in a row occurs in

Rid 73.19b	*þonne mec heaþosigel* 'when me the battle sun'	xx:x/S^{A}sx	C

The verse is unusual in two ways: a) both constituents are clearly disyllabic (the second element *sigel* has the Go. cognate *sugil*) and b) the first element occupies the primary position of a shortened C type, a position usually avoided for resolvable sequences as mentioned above. The final liquid of the compound possibly indicates pseudo-epenthesis, as Terasawa (1994) suggests. He compares the compound with *Sigelwara* in *Exodus* (Krapp 1931: 93)

Exo 69b	*Sigelwara land* 'land [of the] Ethiopians'[409]	S^{A}sx/S	E

and with *Sigelwarum* in the *Fates of the Apostles* (Krapp 1932: 53)

FAp 64a	*þæt mid Sigelwarum* 'that with [the] Ethiopians'	x:x/S^{A}sx	C

He lists the compounds with *sigel* under systematic exceptions with pseudo-epenthesis (Terasawa 1994: 36, 40, 121ff.). He does not discuss his reasons for assuming pseudo-epenthesis. His argument seems weak in view of Luick's findings that non-parasiting is common before *l* with preceding *g* and consequently few examples are recorded. Luick mentions *hægl, hrægl, nægl,* as examples (Luick 1964: §318). Fulk (1992) supports his claim.[410] But the word *segl* m.n. 'sail, veil, curtain' is a relevant model for the assumption of pseudo-epenthesis. Its cognate in OIcel. is monosyllabic *segl* (Holthausen 1934). There are no parasited forms of *l* preceded by *g* in *Beowulf*. However, there are a few forms with parasiting in the *Riddles.* There is one form of *hægl* (cognate OIcel. *hagl*) in

Rid 42.11	*Hægẹlas swa some* '[runic] Hs likewise'	S^{A}x/(x)Sx	A1

[407] Rid 22.13b, 27.14a, 37.3a, 40.95a, 83.11b, 84.8b, 84.21b, 84.24a, 84.33b, 87.3a; syncopated inflected forms in Rid 2.9a, 23.13b.

[408] He lists Beo 190b, 1082b, 1892b, 2803b,3007b and offers for each an alternate scansion.

[409] Name according to Herzfeld (1900) as quoted in Hall (1960).

[410] Luick's findings are based on manuscript reading; Fulk confirms Luick's findings on metrical grounds.

It is one of only three parasited forms in the entire corpus of Old English poetry.[411] In our example, the word is one of the four runic names that used as letters, spell out the solution of the riddle, *hana* 'cock' and *hæn* 'hen' if all of the required letters are arranged in the proper order.[412] The two runes that must be used twice are inflected plurals, *Hægẹlas* in our example and *Ācas* in 42.10b. The verse must also be counted among the rare A1 verses with an unresolved second foot /Sx.[413] Trautmann (1915: 105) proposes *ond Hægẹlas swa some* with a question mark, but does not state why he considers the verse unusual or unmetrical. It might well have been his intention to scan as a B2-type x/Sx:x:s.[414] The verse shows quite a variety of irregularities, and the parasited form of the runic name might be one of them. However, Luick does not claim that there are no parasited forms. And although there are none in *Beowulf*, forms of *fugl* in parasited and non-parasited forms are found quite evenly distributed in the poetic corpus, even in *Genesis*, an early text according to the chronology proposed by Cable (see footnote 397 above).[415] There are two forms, *fugele* and *fugul* (cognates OIcel. *fogl*, *fugl* and Go. *fugl-s*) with an epenthetic vowel in the *Riddles*

Rid 31.7b	*fugẹle gelīce* 'like [a] bird'	S^Ax/(x-)Sx	A1
Rid 36.9b	*ne wæs þæt na fugụl āna* 'not was this at all [a] bird alone'	x:x:x:x/S^A:sx	C

There are also 5 inflected forms with a syncopated medial vowel.[416] These examples might speak for pseudo-epenthesis in the *Riddle* example. Although the scarcity of parasiting in words with final *l* preceded by *g* seems to testify against the assumption of pseudo-epenthesis, the verse

Rid 73.19b	*þonne mec heaþosigel* 'when me the battle sun'	xx:x/S^Asx	C

might be interpreted as such, since as type C it also contravenes the general rule against resolution on the S position of a shortened C type. With this example counted among those with pseudo-epenthesis there are no exceptions in the *Riddles* to Terasawa's restrictions.

The only exception to Terasawa's constraints in *Beowulf* is

Beo 502a	*mōdges mere-faran* '[of the] brave seafarer'	S^Ax/S^Asx	Dax

[411] The other two are *hægel* in Psalm 50 and *hægelscurum* in Andreas; see Bessinger (1978).

[412] Rid 42.8b-11b:"*Þǣr sceal Nȳd wedan // twēga ōþer / ond sē torhta Æsc // ān an līnan, / Ācas twēgen, // Hægelas swā some*" (Krapp and Dobbie 1936: 204).

[413] See "Type A1" on page 29.

[414] Type B2 with a resolved s is not as rare as the A1 type with an unresolved sequence in the second foot with the exact same syntactic structure of the entire verse. Both texts show a higher percentage for type B2 and the same distribution with 6.7% in *Beowulf* and 5.6% in the *Riddles*. But the calculation of the statistical difference in the percentages between type B2 and A1 does not yield a significant result in either text, although there is a tendency toward a higher percentage of this variant of the B2 type in *Beowulf* with a statistical significance of 1.3. Both variants must be considered equally rare.

[415] Bessinger (1978) lists 42 non-parasited example vs. 47 parasited, the ratio in *Genesis* is 2 to 3.

[416] Parasited forms in Rid. 31.7b, 36.9b, non-parasited forms in Rid. 24.5a, 26.7b, 36.11b, 51.4a, 74.3a.

Here as well we find a very unusual type: it is the only Dax verse with a resolved second primary position S and an unresolved sx in *Beowulf*. The Dax type does occur with resolution on the S position of the second foot, but only if the following sx sequence is not an unresolved sequence as we find in the example above. The verse should probably be considered very rare or even metrically unsound. The results are presented in Figure 71.

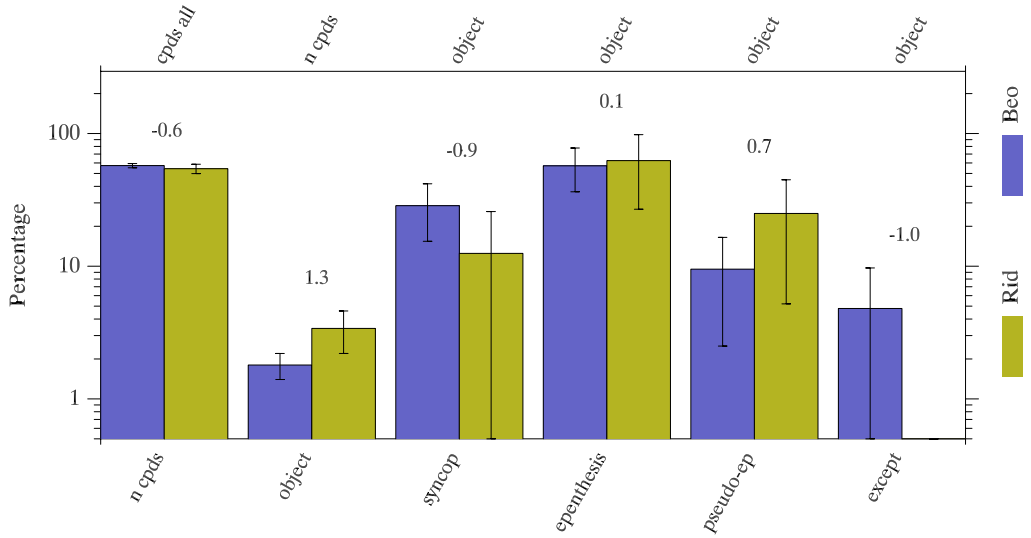

Figure 71: Metrical restriction on compound elements. Normalization labeled in the top row. Percentages in logarithmic array.[417]

The figure shows that the results of the comparison are statistically equal. There are just as many syllabic sequences in the nominal compounds in the *Riddles* that are subject to Terasawa's constraint. The objectionable examples in the *Riddles* may be explained with the same arguments that Terasawa (1989) used for the examples in *Beowulf*. If they are indeed valid, it is safe to assume that the restrictions are observed in the *Riddles* just as in *Beowulf* and that these results are evidence for a relatively early date.

[417] See Table 96 on page 60.

4. Comparison of Features

The sections above on the individual types deal with the evaluation of the corresponding percentages of the two texts. Statistical differences were detected in quite a number of individual features and they may be used to work out a true discrepancy. In many cases the results do not yield definite numbers and clear differences. Especially since the calculation of the statistical significance is rather conservative, a range of results falls outside a conclusive outcome, although they show certain tendencies. A comparison of similar features with non-significant deviating values taken from related types may therefore yield a result, despite the fact that numbers are not statistically significant. The analysis of the 22 types has revealed that apart from the percentages of the occurrence of each type in the two texts, a number of metrical features show differences. If the differences in all of those features are considered together, they may point in the direction of a general deviation in the metrical composition of the *Riddles* from the metrical norm in *Beowulf*. What this may be and how it affects the quality of the metrical composition of the *Riddles* should emerge from the comparison of these features from all the 22 types. The topics are arranged according to the discussions of the individual types.

4.1. Frequency of All Types

In the first very rough comparison of the frequencies of Sievers' types in *Beowulf* and in the *Riddles*, there are obvious discrepancies.[418] The most frequent A types, i.e. types without a compound foot or only one or two short ones are significantly more frequent in the *Riddles*. The least frequent types D and E, i.e. types with the longer and the heavier compound feet and additional stressed positions in the non-compound foot occur significantly more often in *Beowulf*. The analysis of the individual types demonstrates, however, that the frequencies among these groups vary considerably, not only among themselves, but equally between the two texts. The question is, why the differences occur and how they may be explained.

In Russom's word-foot theory, frequency and complexity are closely related. In very simplified terms, this means that the frequency of a phonological word pattern in *Beowulf* defines the complexity of the metrical foot pattern that it represents. The most frequent pattern of the foot and the verse is defined as the norm or the standard. In the same vein, the most frequent syntactic structure of the underlying phrase defines the complexity of the verse pattern that it represents.[419] So, metrical patterns reflect the frequencies of word patterns and the frequencies of syntactic structures in a way that allows for a rough grading of complexity of any metrical pattern in view of its deviation from a norm or a standard. However, the degree of complexity cannot be established according to a linear grading related to particular deviations from a norm, since the two-word pattern of the core verses, i.e. the direct metrical representation of the underlying language material, cannot accommodate the wide range of syntactic structures in Old English poetic diction. They necessitate extrametrical syllables added to the core verse to accommodate additional function words and mismatches in the metrical depiction of the language

[418] See Figure 3 on page 26.
[419] See "Complexity" on page 60.

material in the shape of word groups on a compound foot pattern. Both of them, extrametrical syllables and mismatches between linguistic material and metrical representation, theoretically increase the complexity of the verse pattern. However, complexity, inherent in the core verse or added, may be compensated. The a-verse and double alliteration, for instance, are preferred or even mandatory for certain complex verse types. Moreover, the metrical patterns of very frequent syntactic structures are considered normalized locations despite the added complexity of a mismatch in linguistic material and metrical pattern. Type B is an example of the case in question, where the compound foot is most often occupied by a word group.[420] So, the frequency of individual types and their variant deviations from the core verse is defined by a combination of a number of interrelated factors. To speak of definition here is debatable, since the complexity of individual types and variants is deduced from the frequency of their occurrence in a text, where word forms and syntactic structures do not merely depend on the inherent properties of the language or the metrical system of the text, but also, indeed very much so, on the narrative style of the poet. The poet's choice of style represents the type of socialization the poet has undergone or the milieu of his composition and the audience he is addressing. The defined metrical complexity of a verse type cannot therefore be an absolute measure for its frequency in the text. The rankings of the types in Figure 72 on page 136 and Figure 73on page 140 on page 139 demonstrate the effect of the complicated interrelation between metrical complexity and actual linguistic realizations in the given texts. There is no simple pattern in the sequence of types according to progressing complexity. However, the language and meter of *Beowulf* are the accepted standards in the search for similarities and differences in comparison with the language and meter of the *Riddle* text. They are the basis for the evaluation of the frequencies of the 22 types based on the concept of metrical complexity as well as their patterning as a mirror image of the frequencies of syntactic structures. In this view, the comparison is a viable means to disclose at least for certain trends and tendencies, in what way the differences between the two metrical structures may be explained.

The discussion of Figure 72 on page 136 and Figure 73 on page 140 focuses on the question of why the ranking and the frequencies of certain types are different in the *Riddles* from those in *Beowulf*.

The ranking of the 22 types in the figures is based on the frequencies in *Beowulf*. The ranks for the types in the *Riddles* are defined according to their frequencies in relation to the frequencies in *Beowulf*. If the statistical error of the frequencies is included, a number of types must be grouped on one and the same rank from a statistical point of view, i.e. the difference in frequency is not statistically significant. The grouping for the types in both texts is not obvious, since the statistical significance may overlap from one type to the next in a cascading sequence interconnecting adjacent types. Consequently, the delimitation of the group is somewhat arbitrary. As seen in Figure 72, in *Beowulf*, the first 8 ranks are occupied by one single type with statistical significance. The following types show overlapping error bars and consequently grouping is not unambiguously defined.

[420] See "Linguistic Material in Type B" on page 60.

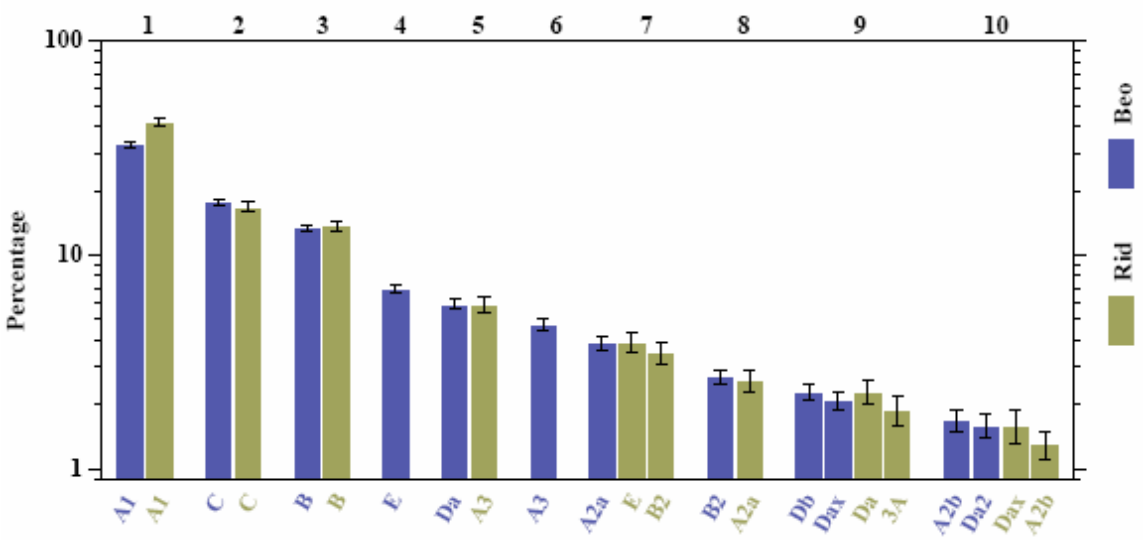

Figure 72: Frequency and ranks 1 to 10 of types in *Beowulf* and in the *Riddles*. The types are listed in order of their frequency. Rank is assigned according to percentages in *Beowulf*. Types are grouped on the same rank if the statistical difference is not significant. Assignment to groups is somewhat arbitrary. Ranks labeled in the top row. Percentages in logarithmic array.[421]

The different ranking in the *Riddles* may now be related to the rankings in *Beowulf* with the inclusion of the statistical error. If the ranking is assumed to represent the scale of complexity in *Beowulf*, it is now possible to deduce the relative complexity of the types in the *Riddles*.

The first three types are on the same rank in both texts. Type A1 is the most frequent in both texts, but by far more frequent in the *Riddles*. The type accommodates the trochaic word, the most frequent phonological pattern in Old English, and it allows a number of extrametrical syllables before the first as well as before the second foot. It is obviously an ideal recipient for very diverse linguistic material, especially in a text with few compounds and consequently with a greater need for additional locations for its unstressed words.[422]

Types C and B rank on position 2 and 3. The relative frequency of types B and C is surprising. They both deviate in weight from the standard of two primary positions. And according to the frequency of the compound foot, the B type should not rank among the most frequent types, since it has the far less frequent compound pattern Sxs in the first foot, whereas the second foot of the C type is occupied by the most frequent compound pattern Ssx.[423] Moreover, types B and C are equally distributed in the two texts. In view of the fact that the *Riddles* contain fewer compounds, it is surprising to see the equally high frequency of two types with a compound in the first foot. The criterion of the word group plays a role: over 90% of all the B verses in both texts have a word group on their second foot.[424] Although the use of word groups represents a mismatch between metrical

[421] See Table 97 on page 60.
[422] See the discussion of compounds and their distribution on page 60.
[423] See Figure 81 on page 60.
[424] See Figure 32 on page 60.

pattern and linguistic material, in epic story telling, as mentioned above, it is impossible to maintain the ideal two-word pattern in each verse. Narrative structures must be accommodated. Therefore, word groups take the place of the normative word or compound. They basically add to complexity.[425] However, we may assume that owing to the demands of epic storytelling, the B type represents the normalized location for the narrative structures of normative word order, compensating for the added complexity of the mismatch. The C type also accommodates word groups on its compound foot, but the shares of compound and word group are about 50%, reflecting the greater need for the placement of the most frequent compound.[426] So, the complexity of the types B and C is approximately equal. Their high frequency immediately after the most frequent A1 type is obvious. Both are recipients for a wide range of syntactic structures. With the exception of dactylic words, they may have word groups, compounds, trisyllabic long-stemmed simplexes, and strings of unstressed function words. In this respect, they accommodate various kinds of narrative structures in one and the same type. And this explains the equal distribution of the two types in *Beowulf* as well as in the *Riddles*.

To return to the discussion of type E, the figure shows the first difference in ranking. Type E is on position 4 in Beowulf with no counterpart in the Riddles. Type E in the *Riddles* is grouped with type A2a in *Beowulf* and B2 in the Riddles on rank 7. So, the relative complexity of type E in the *Riddles* corresponds to the relative complexity of type A2a in *Beowulf*. Despite the fact that E is a very complex pattern with regard to weight and position of the compound foot, it ranks rather high in both texts, although the percentage of its occurrence is significantly lower in the *Riddles*. As in the types B and C, the compound pattern may be occupied by a variety of word groups. And together with the option of an internal extrametrical syllable, type E therefore offers many possibilities for diverse linguistic material next to the implementation of the standard compound form. This is the most plausible explanation for its high frequency and for its rather high ranking on positions 4 and 7.

Type Da is on position 5 in *Beowulf*. And here the ranking and the frequency differs widely. Type Da in the *Riddles* corresponds to position 9 in *Beowulf*, the rank of its types Db and Dax. The *Riddle* poet uses type Da far less frequently than the *Beowulf* poet. The discrepancy is the highest in all types and in any of the metrical features evaluated. It is calculated at a significance of -8.2. The Da type accommodates two stressed words with an additional secondary position leaving little room for unstressed words, with the exception of an occasional prefix in anacrusis or internal extrametrical syllables. Word groups on the compound foot are found in *Beowulf*, but in less than 5% of the verses. The *Riddle* poet does not take advantage of these possibilities at all. The type is composed either as core verse or as whole-verse compound. In the *Riddles*, it apparently only functions as the recipient for the specific syntactic structure of the underlying language material with extremely few exceptions. The possibility of variation may be acknowledged, but it is not exploited. Type Da often requires archaic syntax, as mentioned in the statistical evaluation of the type. Its low frequency is probably an indication of less archaic syntax in a text of generally non-heroic diction or heroic diction as a poetic device in particularly chosen passages.

[425] See "Deviation from the Matching Rule" on page 60.
[426] See Figure 42 on page 60.

Type A3 in the *Riddles* is grouped with the complex type Da in Beowulf on position 5. A3 deviates from the normative weight of two stressed positions and should therefore be considered rather complex. In *Beowulf*, it does indeed rank after Da on position 6. Ranking of A3 on position 5 in the *Riddles* may be explained by its possibility of accommodating a number of syntactic structures similar to the types B and C. With its first light foot and its standard second foot it is a versatile pattern. However, its use in *Beowulf* is rather restricted. Core verses are scarce, its light foot usually has four unstressed positions and it only occurs in the a-verse. The *Riddle* poet does not observe these restrictions fully. He obviously uses the type as a convenient location for a string of function words followed by a trochaic word, disregarding the restrictions on its implementation observed in *Beowulf* or at least not observing them to the same extent.[427]

Type A2a ranks on position 7 in *Beowulf* and on position 8 in the *Riddles*. It is significantly less frequent in the *Riddles*. In this case, it seems that the complexity of the type due to the compound and its unusual position in the first foot does indeed affect its frequency in the *Riddles*. Very similarly as with the Da type, its structure offers few possibilities for diverse syntactic material. The *Riddle* poet composes A2a types to a vast extent as a core verse, but not as exclusively as the *Beowulf* poet. He makes use of the possibility of an internal extrametrical syllable significantly more often than the *Beowulf* poet. This might have something to do with the implementation of additional unstressed syllables in a preferred location. It seems that in the *Riddles*, unstressed syllables are more freely added to core verses of particular types.[428] In any case, the A2a type in the *Riddles* is used with more significant variants than the Da type, which is considered more complex according to its lower rank 9.

Type B2 is only slightly more frequent in the *Riddles* than in *Beowulf*. The significance is calculated at 1.6. But its relative complexity is definitely one rank above that of *Beowulf*, i.e. it is considered less complex. It holds position 7 in the *Riddles* and 8 in *Beowulf*. Although its compound foot is very rare, it is always occupied by a word group with the exception of one single verse in *Beowulf*. The type therefore represents the location for a variety of syntactic structures with trochaic and dactylic words with its combination of a light foot and a very versatile compound foot. Its more frequent use in the *Riddles* is probably due to the greater need for the accommodation of syntactic structures without compounds.

Type Db follows on rank 9 in *Beowulf*. Just like type Da, it is significantly less frequent in the *Riddles* than in *Beowulf* and ranks far behind on position 11. It goes without saying that the type is considered very complex in the Riddles. 50% of the Db types in the *Riddles* are core verses used as a compound verse without taking advantage of the possibility of extrametrical syllables in anacrusis or between the two feet, just as we have seen in type Da. The handling of the D types in the *Riddles* is evidence for strict verse craft. The other 50% have a word group on the compound foot, using it as the normative location for very frequent syntactic structures like in type B, here in combination with a preceding stressed monosyllable. The complexity of the type compared with that of type B in the *Riddles* is due to the infrequent use of the compound

[427] See "Type A3" on page 60 and "The Light Foot and its Strings of Unstressed Syllables" on page 60.
[428] See "Internal Extrametrical Syllables" on page 60.

pattern Sxs or a variety of word groups on this pattern in combination with a preceding primary position instead of a light foot.

On position 9 with Db in *Beowulf*, there is type 3A in the *Riddles* and type Da (Da discussed on page 137). Type 3A in *Beowulf* follows on rank 11 together wit type Db in the *Riddles*. 3A is more frequent in the *Riddles* with a significance of 1.9. The dactylic long foot is not on its normal position, which might explain why it is filled with more word groups than trisyllabic simplexes in both texts. The distribution of dactylic words indicates that it does not serve as the preferred location for dactylic words either in the *Riddles* or in *Beowulf*. The combination of the adaptable first foot and the standard second foot is a plausible explanation for its more frequent use in the *Riddles* than in *Beowulf*.

Next in line is type Dax on rank 9 in *Beowulf*. The evaluation is somewhat misleading because of the arbitrariness of the grouping of the ranks owing to statistically insignificant differences. Type Dax in the *Riddles* is close to type 3A on rank 9 considering the equal statistical frequency. However, Dax in the *Riddles* is closer in percentages to types A2b and Da2 on rank 10 than to Db and Dax on rank 9 in *Beowulf*. Therefore it is grouped with the types closer in percentages. As mentioned already, the frequency of type Dax is only insignificantly higher in *Beowulf*. The type is long and heavy and is treated accordingly in the *Riddles*, where the poet implements it as core verse in the majority of cases. It is used in *Beowulf* and in the *Riddles* to represent the exact language material of a trochaic simplex followed by a compound of the most frequent pattern Ssx. No significant deviations are found in any of the calculated values.

Type A2b follows on position 10 for both texts with equal distribution. It is a rather versatile type, used in *Beowulf* with a word group on both feet, on the trochaic and the compound foot, and with a number of extrametrical syllables, occasionally in anacrusis and quite frequently internally. In the *Riddles*, we do not find anacrusis, but internal extrametrical syllables and word groups are implemented with almost the same percentages as in *Beowulf*.

Type Da2 is on rank 10 in *Beowulf* and on rank 11 in the *Riddles*.[429] Da2 is the first type with a dactylic foot in *Beowulf* in the frequency list. Type Da2 has the dactylic foot in its normative position on the second foot, and, with the exception of one single verse in *Beowulf*, all of the Da2 types in both texts have a dactylic word on the second foot. The Da2 type seems to be the normalized recipient for dactylic words in *Beowulf* with a share of 41% of all the dactylic words. In the *Riddles*, type C2 also ranks on position 11 as Da2. Both types may be considered together as the preferred location for dactylic words with 27% dactylic words in type C2 and 21% in type Da2.

Figure 73 shows the types on rank 11 to 14.

[429] See Figure 73 on page 60 for type Da2 in the *Riddles*.

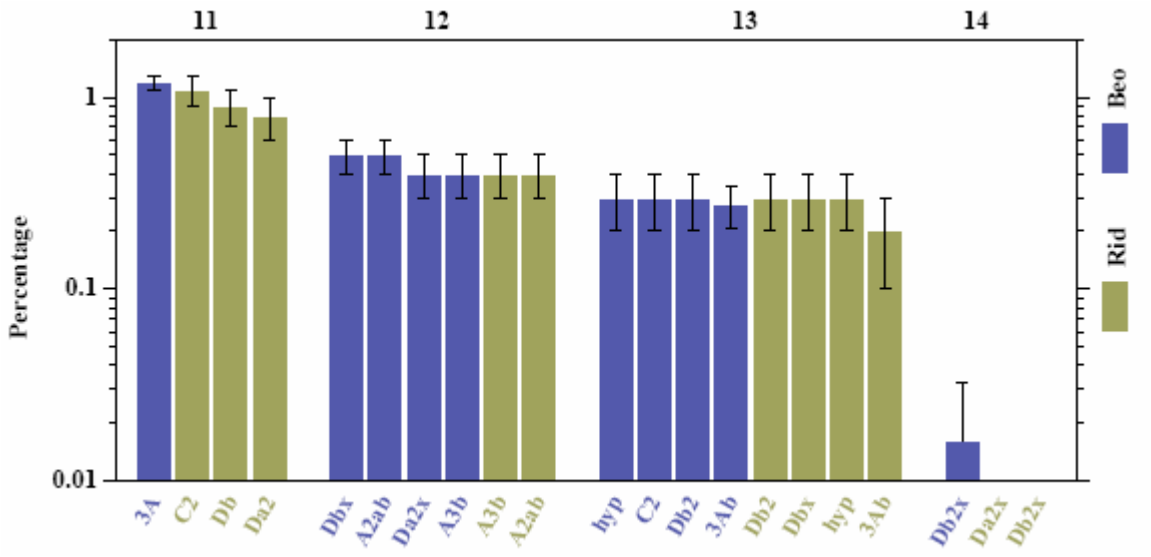

Figure 73: Frequency and ranks 11 to 14 of types in *Beowulf* and in the *Riddles*. The types are listed in order of their frequency. Rank is assigned according to percentages in *Beowulf*. Types are grouped on the same rank if the statistical difference between types is not significant. Assignment to groups is somewhat arbitrary. There is only 1 Db2x verse in *Beowulf*. No Da2x and Db2x verses occur in the *Riddles*. Ranks labeled in the top row. Percentages in logarithmic array.[430]

Type 3A in *Beowulf* ranks on position 11 and in the *Riddles* on position 9. 3A is less frequently used in *Beowulf* with a significance of 1.9, which is close to statistically significant. Type 3A may accommodate a dactylic word on the first foot, but over 80% of the 3A verses in both texts have a word group instead of a dactylic word on the long foot. Dactylic words seem to be avoided on the non-normative first foot for the long Sxx foot in 3A in both texts. The higher rank of 3A in the *Riddles* may be connected with the accepted use of word groups on the first foot and a trochaic word on the second, another possibility to implement unstressed syllables and the most frequent word pattern of the language.

Rank 12 and 13 are occupied by the rarest types. All of them occur with less than 1% of all readable verses. Comparison of frequency and ranking is outside statistical significance with very few exceptions.

On position 12 are four types in *Beowulf*, all of them with a frequency of less than 1%: Dbx, A2ab, Da2x, and A3b.

Type Dbx is heavy and long and shows few differences in the *Riddles* from implementation in *Beowulf*. The difference in distribution is calculated with a significance of -1.9. Although the non-standard compound foot Sxs is occupied by a word group or a compound with statistically equal shares in both texts, it is still the location for the non-standard compound with the smallest number of realizations. The other two recipients for the compound Sxs, type B and Db, show a greater number of compounds on the second foot. The statistical distribution of compounds on the compound foot for all three types is equal in the two texts. The low frequency of type

[430] See Table 97 on page 60.

Dbx in the *Riddles* is apparently due to the complexity of the verse on the one hand, which deviates from standard weight and length and, on the other hand, due to the fact that it is not exclusively needed for the accommodation of the Sxs compound. Type B is in both texts the preferred location. Type Dbx in the *Riddles* holds position 13, although the statistical difference between position 12 and 13 is just barely significant.

Type A2ab is on position 12 in *Beowulf* and in the *Riddles*. It is the heaviest type of all with two primary positions and two secondary ones. Its percentages do not deviate in the two texts.

Type Da2x does not occur in the *Riddles* at all. It is the specific type for the introductory formulaic expression of direct speech in *Beowulf* as in

Beo 348a	*Wulfgār maðelode* 'Wulfgar spoke'	$S^{A}x/\underline{S}xx$	Da2x

In type A3b the distribution is the same in the two texts and no deviations are found in the syntactic structures of the underlying linguistic material. A3b ranks on position 12 in both texts.

On rank 13 of the order of precedence, there are four types in *Beowulf*: the hypermetrical verses, C2, Db2 and 3Ab.

The hypermetrical verses, Db2, and 3Ab show no statistical deviation in distribution compared to the *Riddles*..

Type C2 in *Beowulf* is special with its much lower frequency than C2 in the *Riddles*. The statistical difference in frequency between C2 in *Beowulf* and in the *Riddles* is quite considerable with a value of 3.3. In the *Riddles*, as we have seen in the discussion of type Da2 on page 139, also type C2 is used as the normalized location for dactylic words along with Da2. Not so in *Beowulf*: Type C2 has a share of dactylic words of only 8% of the total number and no word groups on the /Sxx foot. The *Beowulf* poet obviously regards type C2 as very complex, whereas the *Riddle* poet disregards its complexity to a certain extent and uses type C2 for a good number of the dactylic words in the text. Here again, the *Riddle* poet prefers the lighter verse type C2 to the heavier Da2 if it offers the same location for a specific syntactic structure.

Db2x only occurs once in *Beowulf*. It occupies rank 14.

To sum up, deviations are found in ranking and in actual numbers of occurrences. This means that neither the concept of the theoretical metrical complexity of the individual types nor the frequencies of the underlying syntactic structures are the same in the two texts. The frequencies of the individual types and their variants show in what way the differences may be related to the difference in metrical composition.

The group of types with equal ranking includes the most frequent and some of the least frequent types. In Table 9, the types are listed in order of their frequency with the significance of statistical distribution in the two texts.

The most frequent types, A1, B, and C obviously accommodate the most frequent word patterns and the most frequent syntactic structures in both texts, as discussed above with the frequency and rank of individual types. The drastically higher percentages of A1 verses and of some of its more complex variants in the *Riddles*, i.e. A1 verses with internal extrametrical syllables and word groups, signal that increased complexity is disregarded owing to a greater need for function words, which in turn might be related to a change in language.

Table 9: Equal Ranking of Types in *Beowulf* and in the *Riddles*

Type	Ranking	Pattern	Sign.	Rank
A1	↔	Sx/Sx	5.1	1
C	↔	x(x)/Ssx	-0.8	2
B	↔	x(x)/Sxs	0.3	3
A2b	↔	Sx/Ss	-1.2	10
A2ab	↔	Ss/Ss	-0.7	12
A3b	↔	xx/Ss	0.3	12
hyp	↔	all patterns	-0.7	13
Db2	↔	S/Sxxs	0.0	13
3Ab	↔	Sxx/Ss	-1.0	13

The remaining types with equal ranking belong to the least frequent types in both texts. Type A2b on an equal rank in the *Riddles* as in *Beowulf* seems plausible, since it is the least complex of the A2 types with the compound pattern on the normative position in the second foot. But the equal rank for type A2ab is somewhat puzzling in Russom's system of complexity and seems very odd in view of the lower ranking of A2a in the *Riddles*. It should be noted that the type is often used for a compound word with the lexicalized second constituent *-līc* in both texts and that the percentage for *-līc* is higher in the *Riddles*. The equal ranking might just be explained by the specific use of type A2ab for the frequent use of the suffix *-līc* denoting likeness as a riddling device.[431] For the types A3b, 3Ab, and Db2, equal ranking may be a sign of the exploitation of versatile types of limited complexity to accommodate compound patterns in combination with function words or word groups in the *Riddles*. Types A3b, 3Ab and Db2 have the compound pattern on the normative position on the second foot, and they allow for a string of unstressed words or for word groups. However, for all the very infrequent types, ranking is problematic because of the extremely low numbers in both texts and the rather arbitrary grouping in the bottom ranks.

Table 10 shows the types that rank higher in *Beowulf*.

Table 10: Higher Ranking of Types in *Beowulf*

Type	RankBeo	Pattern	Sign.	RankBeo/Rid
E	↑	Ssx/S	-5.5	4/7
Da	↑	S/Ssx	-8.2	5/9
A2a	↑	Ss/Sx	-3.0	7/8
Db	↑	S/Sxs	-4.8	9/11
Dax	↑	Sx/Ssx	-1.6	9/10
Da2	↑	S/Sxx	-3.2	10/11
Dbx	↑	Sx/Sxs	-1.9	12/13

The table illustrates expected results. The *Riddles* have significantly fewer heavy patterns and their lower ranking makes perfect sense in view of the higher frequencies calculated for a number of types in the *Riddles*. They are shown in Table 11.[432]

[431] See "Distribution of Lexicalized Compounds with Indeterminate Stress" on page 60.

[432] See also Figure 72 on page 60 and Figure 73 on page 60.

Table 11: Higher Ranking of Types in the *Riddles*

Type	RankRid	Pattern	Sign.	RankBeo/Rid
A3	↑	xx/Sx	2.0	6/5
B2	↑	x(x)/Sxxs	1.6	8/7
3A	↑	Sxx/Sx	1.9	11/9
C2	↑	x(x)/Sxx	3.3	13/11

The types with higher ranking in the *Riddles* have standard weight or they are light verses. They all are versatile types and, although complex with regard to their deviation from standard weight and length, used with higher percentages in the *Riddle* text. They offer locations for a wide variety of linguistic material, especially strings of unstressed function words and word groups on the compound or the simplex patterns. Complexity based on frequency in the sense of Russom's theory deduced from findings in *Beowulf* is not the same in the *Riddles*. The hierarchy of frequency is somewhat distorted in favor of types with more than one unstressed position and clearly indicates an increased use of function words in the language material of the *Riddle* text and the use of fewer compounds. Therefore, the difference in complexity between the Riddles and *Beowulf* is necessitated by the metrical representation of the non-heroic narrative style in the *Riddles*.

4.2. Accommodation of Additional Unstressed Syllables

Evaluation of linguistic material in the various types reveals use of additional unstressed syllables with a number of core verses in both texts.[433] Three categories of unstressed syllables have been considered, namely syllables in anacrusis, internal extrametrical syllables, and syllables before the light foot. In the following, the percentages of each of the three categories are compared for the corresponding verse types.

4.2.1. Anacrusis

The distribution of anacrustic verses in the readable verses in *Beowulf* and in the *Riddles* does not show a deviating result, but a tendency in the *Riddles* to implement fewer verses with anacrusis. The results are good evidence for strict verse craft and possibly a tendency toward elimination of anacrusis due to the smaller number of prefixed forms.[434] Figure 74 illustrates the calculated values.

The significance for the total number of anacrustic verses in the total of readable verses is calculated at -1.5. Anacrusis is found in A1, A2b, 3A, Da, Dax, Db, Db2, and Dbx in *Beowulf*. Among the types that do have anacrusis, the percentage is equal in the two texts, despite the fact that anacrusis occurs only in the types A1, 3A, and Dax in the *Riddles*.[435]

[433] The counts for extrametrical syllables in hypermetrical verses are not included.

[434] See "Prefixes in Word Groups" on page 60 for a detailed discussion.

[435] See the definition in "Anacrusis" on page 60.

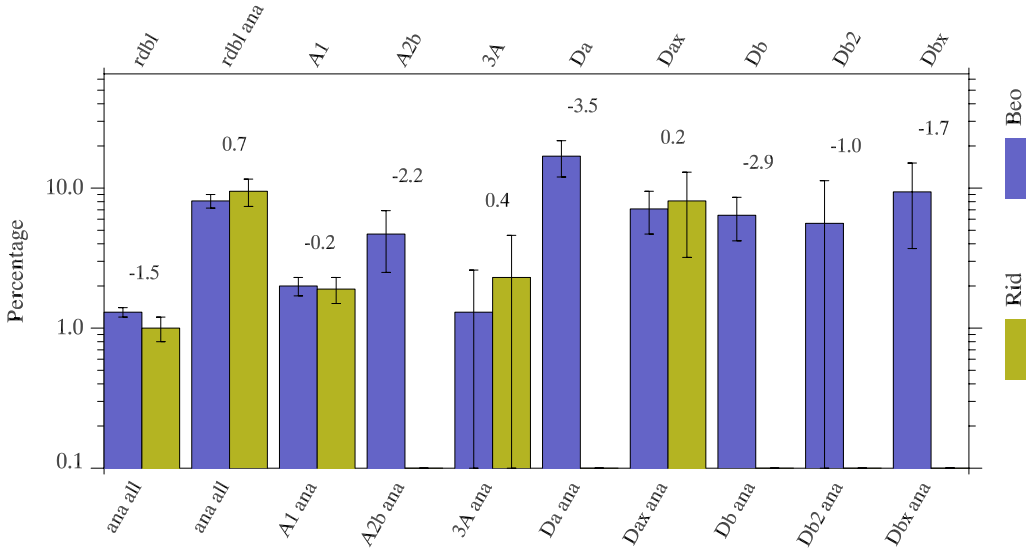

Figure 74: Anacrustic verses. Normalization labeled in the top row. Percentages in logarithmic array.[436]

In the types A2b, Da, Db, Db2, and Dbx, anacrusis does not occur in the *Riddles*. In the types A1, 3A, and Dax, where anacrusis does occur in the *Riddles*, the calculations show equal statistical distribution as in *Beowulf* with slightly higher percentages in the *Riddles* for types 3A and Dax and a minimally lower percentage for type A1.

The calculations of the statistical discrepancies in Figure 74 show significantly deviating values for A2b, Da, and Db and possibly Dbx, where the number of verses with anacrusis is not close to the zero value in the *Riddles*. In Db2 the number of verses is 1, too close to zero to allow for a statistical deviation with any significance.

The statistical deviation shows that the avoidance of anacrusis in the types A2b, Da, Db, Db2, and Dbx in the *Riddles* must be systematic.

Restrictions on anacrusis in *Beowulf* may be explained in relation to the complexity of the verse.[437] Anacrusis is found in *Beowulf* in types A1, A2b, 3A, Da, Dax, Db, Db2, Dbx. It seems that in *Beowulf*, anacrusis is only allowed in types with the normative second position of the long and/or heavy foot and where the second foot is not occupied by the dactylic foot Sxx or the least frequent compound foot Sxxs. The dactylic foot is usually occupied by a verb, hence the rarity of prefixes in the preceding foot that is usually not a verb. Type 3A is used with anacrusis, since the verb on the dactylic foot may have a prefix.

Table 12 lists the types with anacrusis in the two texts.

[436] See Table 98 on page 60.

[437] Russom (1987a: 34) and "Deviation from the Norm" on page 60.

Table 12: Verse Types with Anacrusis in *Beowulf* and in the *Riddles*

Type with Ana		**1st Foot**	**2nd Foot**	**Deviation from Norm**
Beo	**Rid**			
A1	A1	Sx	Sx	
A2b		Sx	Ss	weight, compound
3A	3A	Sxx	Sx	length, position of long foot
Da		S	Ssx	weight
Dax	Dax	Sx	Ssx	weight, length
Db		S	Sxs	weight, compound
Db2		S	Sxxs	weight, length, compound
Dbx		Sx	Sxs	weight, length, compound

In *Beowulf*, anacrusis is found in types A1, A2b, 3A, Da, Dax, Db, Db2, Dbx; in the *Riddles* in types A1, 3A, and Dax.
Table 13 illustrates the types without anacrusis in *Beowulf* and in the *Riddles*.

Table 13: Verse Types without Anacrusis in *Beowulf* and in the *Riddles*

Type without Ana		**1st Foot**	**2nd Foot**	**Deviation from Norm**
Beo	**Rid**			
A2a	A2a	Ss	Sx	weight, compound, position of compound
	A2b	Sx	Ss	weight, compound
A2ab	A2ab	Ss	Ss	weight, compounds, position of 1st compound
3Ab	3Ab	Sxx	Ss	weight, length, position of long foot, compound
	Da	S	Ssx	weight
Da2	Da2	S	Sxx	long foot
Da2x	not in Rid	Sx	Sxx	length, long foot
	Db	S	Sxs	weight, compound
	Db2	S	Sxxs	weight, length, compound
	Dbx	Sx	Sxs	weight, length, compound
Db2x	Db2x	Sx	Sxxs	weight, length, compound
E	E	Ssx	S	weight, position of compound

In *Beowulf*, anacrusis is not found in types A2a, A2ab 3Ab, Da2, Da2x, Db2x, and E; in the *Riddles* in types A2a, A2b, A2ab, 3Ab, Da, Da2, Db, Db2, Dbx, Db2x, and E.

These types have a compound or a dactylic pattern in the first foot, and a dactylic pattern or the low-frequency compound Sxxs in the first foot.

The results for types with anacrusis are not the same in the *Riddles* as in *Beowulf* as Table 12 illustrates. Anacrusis occurs in far fewer verse types in the *Riddles* than in *Beowulf*. The differences are tabulated in Table 14. The table includes the types with and without anacrusis in the *Riddles*. The types that do not occur with anacrusis in *Beowulf* are not listed, since the avoidance of anacrusis in these types conforms with the practice in *Beowulf*. The differences alone are of interest in this case.

Table 14: Verse Types in the *Riddles* with Anacrusis and Verse Types without Anacrusis in Addition to those without Anacrusis in *Beowulf*

Rid Type with Ana	**First Foot**	**Second Foot**	**Deviation from Norm**
A1	Sx	Sx	
3A	Sxx	Sx	length, position of long foot
Dax	Sx	Ssx	weight, length
Rid Type without Ana	**First Foot**	**Second Foot**	**Deviation from Norm**
A2b	Sx	Ss	weight, compound
Da	S	Ssx	weight
Db	S	Sxs	weight, compound
Db2	S	Sxxs	weight, length, compound
Dbx	Sx	Sxs	weight, length, compound

The restrictions in the *Riddles* may not simply be explained by the overall frequency of the verse types and the lower probability of anacrusis. The Dax type, for instance, is less frequent than the Da type in both texts.[438] The reason for the restrictions must be sought elsewhere. Type Da, Db, Db2, and A2b are all occasionally composed with a verb in first position, but never with a prefixed form in the *Riddles*. So, the lack of anacrustic D and A2b verses in the *Riddles* may be related to the lower frequency of prefixed verbs on the whole. This would lead to a decrease in anacrustic verses, which is a purely syntactic practice. The evaluations for prefixed forms in word groups do indeed yield generally lower percentages in the *Riddles*.[439]

4.2.2. Internal Extrametrical Syllables

In *Beowulf*, there are 10 types that have internal extrametrical syllables, A1, A2a, A2b, A2ab, 3A, Da, Dax, Db, Db2, and E.[440] In the *Riddles*, in addition to the types in *Beowulf*, there is one Da2 verse that has 1 unstressed syllable before the second foot. On the whole, the same types have internal extrametrical syllables in the *Riddles* as in *Beowulf*. Figure 75 shows the detailed percentages of the 11 types.

A first glance confirms the results in the evaluations of the individual types: internal extrametrical syllables occur in many more verses in the *Riddles* than in *Beowulf*, most of the calculated values for the statistical significance showing positive results. Among all the verse types that may have additional syllables between the two feet there are 27.9% in the *Riddles* and 22% in *Beowulf* that actually have such syllables incorporated in the core verse. The significance is calculated at 3.4, an unmistakable value for a conclusive statement. The individual types do not show an overall increased use of internal extrametrical syllables, however.

[438] See Figure 72 on page 60 or Table 97on page 60.

[439] See "Prefixes in Word Groups" on page 60.

[440] Hypermetrical verses also occur with internal extrametrical syllables. They are not included in the count and disregarded in the discussion..

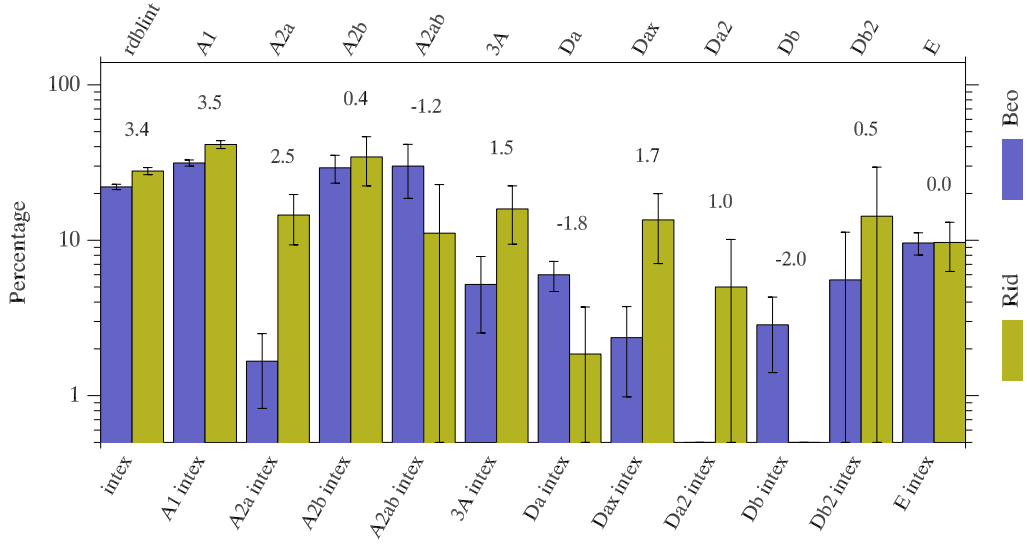

Figure 75: Internal extrametrical syllables. Normalization labeled in the top row. The total of internal extrametrical syllables in the first column is normalized on the total of A, D, and E types that accommodate such syllables (rdblint). Percentages in logarithmic array.[441]

In A1 the result is clear with 41.3% in the *Riddles* and 31.4% in *Beowulf*. The significance with a value of 3.5 corresponds to the evaluation of all types together. In type A2a as well, we find significantly more verses with internal extrametrical syllables in the *Riddles* than in *Beowulf*. The types A2b and A2ab have comparable percentages. The types 3A and Dax show slightly different values with a tendency toward more frequent use in the Riddles, whereas type Da has an almost significant result for fewer verses with internal extrametrical syllables. The results for the types Da2, Db2, and E do not deviate statistically. Type Db, on the other hand, shows a significant value for fewer verses in the *Riddles*.

If the patterns of verse types with internal extrametrical syllables are first ordered according to the significance of deviation and then rearranged in groups of patterns according to the place of the extrametrical syllable, either in the first thesis or between two stressed syllables, a peculiar distribution appears. Table 15 shows the arrangement. The third column represents the pattern of the type and the number of extrametrical syllables that are acceptable according to the findings in *Beowulf*, either one (x) or two and three (x*) such syllables. The additional syllables seem to be preferably used with types where they can be incorporated into the first thesis. The values show more such verses or an equal number in the *Riddles* (rows 1-5). In this group the *Riddle* poet favors A1, the simplest type, for additional internal unstressed syllables. He obviously avoids to a considerable extent added complexity in the longer or heavier types of the group.

Where an unstressed syllable is inserted between two stressed positions, creating an extra thesis, the *Riddle* poet composes the type closer to the patterns in *Beowulf* or more conservatively, i.e. closer to the core verse, with fewer verses with extrametrical syllables

[441] See Table 99 on page 60.

(rows 9-11). Here as in the first group, the added complexity of internal extrametrical syllables is avoided in the *Riddles* in the already heavy and complex types.

Table 15: Verse Types with Internal Extrametrical Syllables and the Significance of Deviation

	Type	**Pattern**	**Sign.**
1	A1	Sx/(x*)Sx	3.5
2	Dax	Sx/(x)Ssx	1.7
3	3A	Sxx/(x*)Sx	1.5
4	A2b	Sx/(x*)Ss	0.4
5	E	Ssx/(x)S	0.0
6	A2a	Ss/(x)Sx	2.4
7	Da2	S/(x)Sxx	1.0
8	Db2	S/(x)Sxxs	0.5
9	A2ab	Ss/(x)Ss	-1.2
10	Da	S/(x*)Ssx	-1.8
11	Db	S/(x)Sxs	-2.0

Obvious exceptions are the three types in the second group. The greatest deviation is calculated for A2a. It seems that here the *Riddle* poet does indeed incorporate internal extrametrical syllables as an extra thesis in significantly more verses than the *Beowulf* poet. The question must be raised again, whether 3 A2a types with internal extrametrical syllables in the *Riddles*, should not possibly be scanned as A1 types, since they have a finite verb on the secondary position of the first foot, a constellation that occurs only once in type A2a in *Beowulf* and never with an internal extrametrical syllable.[442] However, even if the *Riddle* verses in question are eliminated from the count, the significance is only reduced to 1.9 for the percentages of internal extrametrical syllables, a value still very close to a significant statistical discrepancy. The interpretation of the Ss word may also be a reason for the discrepancy. If only nominal compounds on the first Ss foot of the relevant types A2a and A2ab are included in the calculation and proper names and lexicalized compounds scanned as Sx in the A1 or A2b types owing to their ambiguous metrical value, the difference in the percentages for A2a becomes statistically non-significant, whereas the results for the A1 and A2b types remain within the same percentages. The conclusion about the implementation of extrametrical syllables is not drastically affected by this explanation: no matter what the reason for the exceptional percentage of the A2a type may be, the language of the *Riddles* requires more extrametrical syllables and the poet places them artistically in his preferred location of the simplest pattern, thus avoiding the addition of complexity in already complex heavy verse types. A2a may be excluded from his general practice as one of the less heavy types and the one type closely related to A1. The distribution of internal extrametrical

[442] The problem of scansion is addressed in "Linguistic Material in Type A2a" on page 40.

syllables in the *Riddles* show adherence to an overall scheme and are certainly a sign of careful verse craft and metrical skill.

4.2.3. The Light Foot and its Strings of Unstressed Syllables

Before the evaluation of the light feet in the 6 types concerned is discussed, a remark in the light foot with regard to the underlying linguistic material is in order. The definition of the light foot according to Russom's theory does not apply in its strictest form in all the verses with light feet. Russom claims that a disyllabic word usually occupies the disyllabic light foot.[443] He distinguishes between the two types of B x/Sxs or xx/Sxs and of C x/Ssx and xx/Ssx with one or two syllables in the light foot.[444] With the two verse types A3 and A3b this distinction is not observed. There are verses in both texts with various syllabic compositions of the string containing the light foot. Two examples illustrate the divergence:

Beo 53a	*Đā wæs on burgum* 'There was in [the] castle'	(x:)x:x/S^{A}x	A3[445]
Beo 106a	*siþðan him scyppend* 'since him [the] Creator'	(x)x:x/S^{A}x	A3

In the first example, the light foot is occupied by a word group, which is absolutely acceptable according to Russom's definition. However, the second example shows quite an irregular structure of the light foot. It is occupied by the second syllable of a disyllabic word and a monosyllabic word, a composition that does not agree with the basic statement in Russom's theory that metrical feet correspond to native Old English words (Russom 1987a: 13). If Russom's (1987a: 15) rule that "[e]very foot boundary must coincide with a word boundary" is applied, the second example would have to be scanned differently:

Beo 106a	*siþðan him scyppend* 'since him [the] Creator'	xx/(x)S^{A}x	A3

The verse would have a disyllabic light foot and one internal extrametrical syllable. This scansion would not contravene any of Russom's rules, it would perfectly match an acceptable A3 verse. So, the strings of unstressed syllables in the A3 type is not strictly subject to Russom's rule about word and foot boundaries mentioned above. Unstressed words are indeed said to be "less 'word-like' than stressed lexical items" (Russom 1987a: 10). This might affect their status as metrical positions in a string before a light foot, so that every unstressed syllable may be regarded as an individual unstressed position without adherence to the unity of a word. In the other types with a light foot, in types B, B2, C, and C2, the problem does not arise. Old English function words have at the most two syllables and both, the monosyllabic and the disyllabic one, may fill the light foot of these types. The question may be raised whether the definition of the light foot as monosyllabic or disyllabic is necessary or even desirable. The light foot could be defined

[443] See "Notational System" on page 12.
[444] See Table 3 on page 9.
[445] Extrametrical syllable in parentheses to mark the light foot.

as a string of unstressed metrical positions of at least the number required for the minimum of four positions of the verse. The definition would then be valid for all 6 types with a light foot. And the problem of word boundary in unstressed syllabic sequences in type A3 and A3b would be eliminated. However, there are no trisyllabic verbs in the thesis in *Beowulf*, which excludes a trisyllabic light foot. The definition must therefore be valid and the problem of word boundaries in the string of the first foot of type A3 must be solved by the notational variant proposed in the example of the *Beowulf* verse 106a above. For my notational system I will nevertheless assume that any syllabic sequence in the light foot of type A3 and A3b is acceptable and that no part of it must necessarily be scanned as internal extrametrical material before the second foot in order to simplify notation in the database and facilitate the calculations of the strings for all the types with a light foot.

To return to the comparison of the light foot of the 6 types, three results are analyzed, first, the percentage of the total number of verses with a light foot, second, the frequency of the 6 types in question, and third, the size of the light foot. Figure 76 displays the differences in distribution.

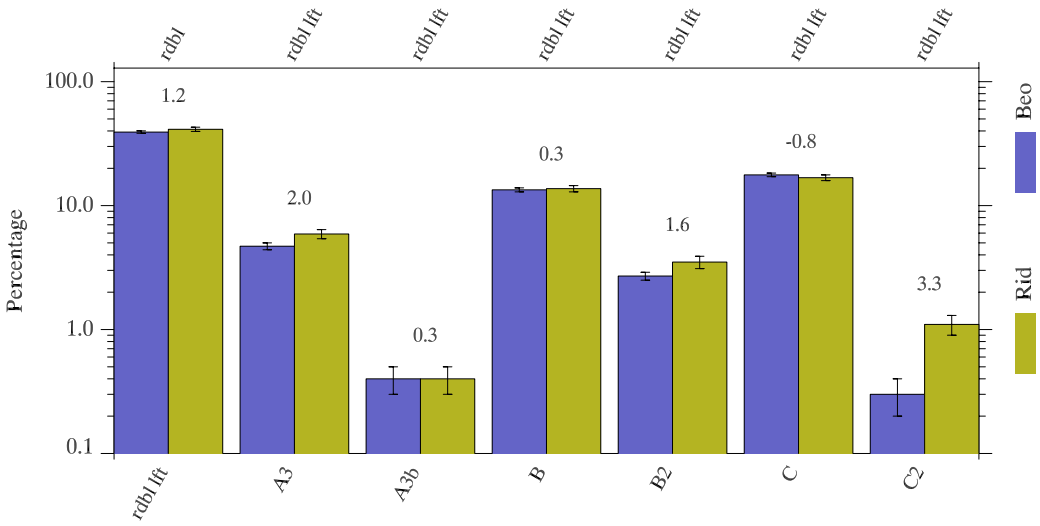

Figure 76: The light foot normalized on the total of verses with a light foot. Normalization labeled in the top row. Percentages in logarithmic array.[446]

The verses with a light foot are equally distributed in the two texts. The *Riddles* have only a slightly higher percentage, but not significantly so. The types A3 and C2 are significantly more frequent in the *Riddles* than in *Beowulf*. Both types have a simplex on their second foot, i.e. they are light verses with the deviating weight of only one stressed position. They both rank higher in the *Riddles* than in *Beowulf*.[447] The type B2 is more frequent with a significance of 1.6, hinting at a tendency to be taken into account. It also ranks higher in the *Riddles*. Its second foot, although a compound form, has an extended thesis, i.e. more than one unstressed syllable. Its compound form is occupied by an actual

[446] See Table 100 on page 60.

[447] For A3 see Figure 72 on page 60; for C2 see Figure 73 on page 60, and Table 11 on page 60.

compound only once in *Beowulf* and never in the *Riddles*, therefore offering the accommodation of a variety of syllabic sequences.[448] The three types with equal statistical distribution in *Beowulf* and in the *Riddles*, A3b, B, and C, are heavier than A3 and C2; and B2 with the same weight as A3 and C2 offers an additional unstressed syllable in the second foot and the option to use word groups. The greater number of the three light verses in the *Riddles* must be connected with the need for verse patterns with a number of unstressed positions and the possibility to use word groups on the compound foot.

In order to evaluate the frequency of a light foot, the distinction between the light foot and the preceding syllables on the one hand and the monosyllabic and the disyllabic light foot on the other is disregarded. The light foot is here defined as the string of the total number of unstressed syllables it contains, i.e. from 1 up to 6 in *Beowulf*. In the *Riddles*, there is one string of 7 in type A3. Despite the fact that the *Riddle* poet uses more verses with strings of unstressed syllables, the number of them in the strings are basically the same. The maximum size of the strings in the individual types is presented in the following table.

Table 16: Maximum Number of Unstressed Syllables in the Light Foot

Type	**Beo max *x/**	**Rid max *x/**
A3	6	7
A3b	6	5
B	5	5
B2	5	4
C	5	5
C2	3	4

As mentioned above, there is only one single verse in the *Riddles* with a string of 7 unstressed syllables in type A3. The discrepancy is therefore negligible. The same holds true for the largest strings in the types A3b and C2. There is only one string in each type in *Beowulf* with the maximum number of unstressed syllables. The different size of the largest string in type B2 carries somewhat more weight, since there are 7 in *Beowulf*, but none in the *Riddles* with a significance of the statistical distribution of -2.6. The evaluation of each type and the distribution of the strings of the various sizes will reveal to what extent the maximum number of string may be of importance.

The evaluation of the A3b type does not show any statistically significant differences in the distribution of the strings of various length with the exception of two values that tend towards significance for the disyllabic (the core verse) and the tetrasyllabic string. Its values are included in Figure 77 together with those for A3.

[448] See the word groups of Type B2 on page 60.

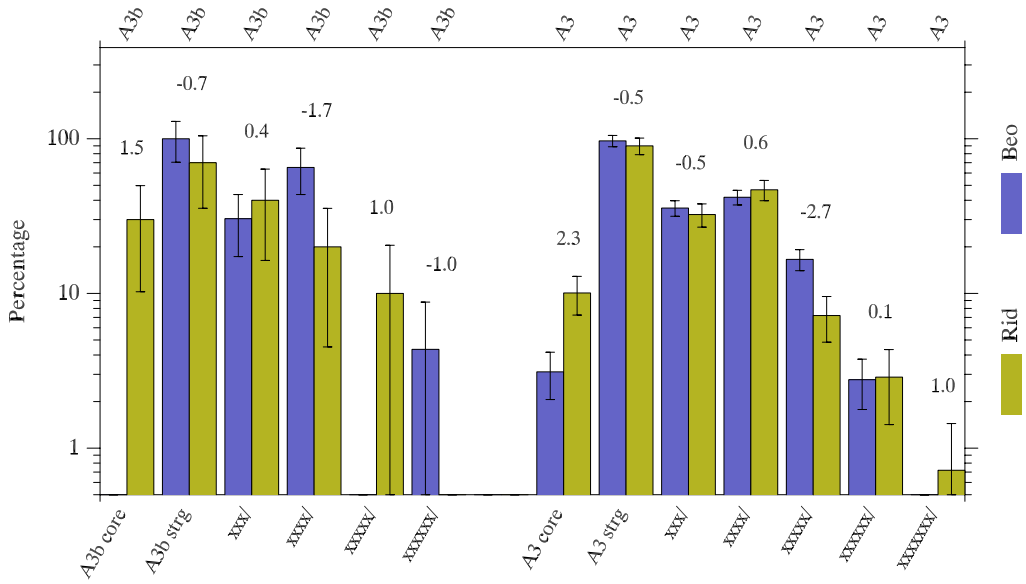

Figure 77: The light foot and the size of its strings in A3b and A3. Normalization labeled in the top row. Percentages in logarithmic array.[449]

The lack of disyllabic strings in *Beowulf*, i.e. the absence of core verses, creates the impression that there is indeed a tendency in the *Riddles* to implement more A3b core verses. However, the numbers are so small that it is impossible to say whether the *Beowulf* poet would never compose the A3b type without additional unstressed syllables before the light foot.

Although there is an obviously greater number of verses with tetrasyllabic strings in the A3b types in *Beowulf*, the discrepancy between the tetrasyllabic and the trisyllabic strings in *Beowulf* is not significant, despite the apparent overlap of the error bars. The calculated value is 1.4.[450] In any case, a clear preference for one particular string cannot be defined, neither for *Beowulf* nor for the *Riddles.*

Type A3 shows discrepancies with statistical significance in two strings, in the core verse with the minimum required number of 2 unstressed positions in the light foot and in the rather long pentasyllabic string. The core verse of A3 in *Beowulf*, i.e. the disyllabic string, is used as rarely as the longest one, the hexasyllabic string. The most frequent metrical composition of the A3 type in *Beowulf* has 3 or 4 unstressed syllables in the light foot with statistically equal distribution between the trisyllabic and the tetrasyllabic string. The same is true for the *Riddles*: the significance of the discrepancy between the trisyllabic and the tetrasyllabic string is calculated at 1.6.[451] However, the distribution of the shorter and the longer strings in the *Riddles* is different from those in *Beowulf*. In the *Riddles*, there are two significant discrepancies. First in the percentages for the pentasyllabic string, which is used significantly less often than in *Beowulf* and second, in the percentages for the minimal string, the core verse, which is significantly more frequent in the *Riddles*. The question is, whether the distribution in *Beowulf* with its tendency to avoid the core verse is metrically motivated. It seems indeed that the

[449] See Table 101 on page 60.
[450] Calculations in Table 101 on page 60.
[451] Calculations in Table 101 on page 60.

infrequent occurrence of the A3 core verse in *Beowulf* is connected to the weight of the second foot. In his discussion of types A1 and A3, Bliss (1958: §69) suggests that the greater number of unstressed syllables "before the second stress in type A1 [than] before the only stress in type A3" functions as a counterbalance to the only stress in the pattern, compensating the light weight with additional length. If we accept the argument that such a compensation is a metrical requirement, the result for the *Riddles* shows a significant deviation in A3. The evaluation of the remaining verse types with a light foot is a clue to the validity of this assumption as a general rule for all the types with a light foot. The B and the C types have a considerably higher number of the shortest possible string than the A types. All four types, both B and C types, show a preference for the disyllabic string in the light foot with statistically equal percentages in *Beowulf* and in the *Riddles*. The pattern of preference of particular strings, however, is different in types B and types C. Figure 78 shows the percentages for the strings and their distribution in the B types.

In type B, the distributions of the monosyllabic string of the core verse and the trisyllabic string, show statistical differences. In *Beowulf*, the trisyllabic string is clearly preferred as the second most frequent light foot in type B. In the *Riddles*, however, the monosyllabic and the trisyllabic strings are equally distributed. The *Riddle* poet does not distinguish between the longer and the shorter string. They are both used as the second most frequent strings with equal shares, whereas the *Beowulf* poet seems to make the distinction in his preference for the trisyllabic string. He would prefer the trisyllabic string over the monosyllabic one, where the *Riddle* poet does not have a preference.

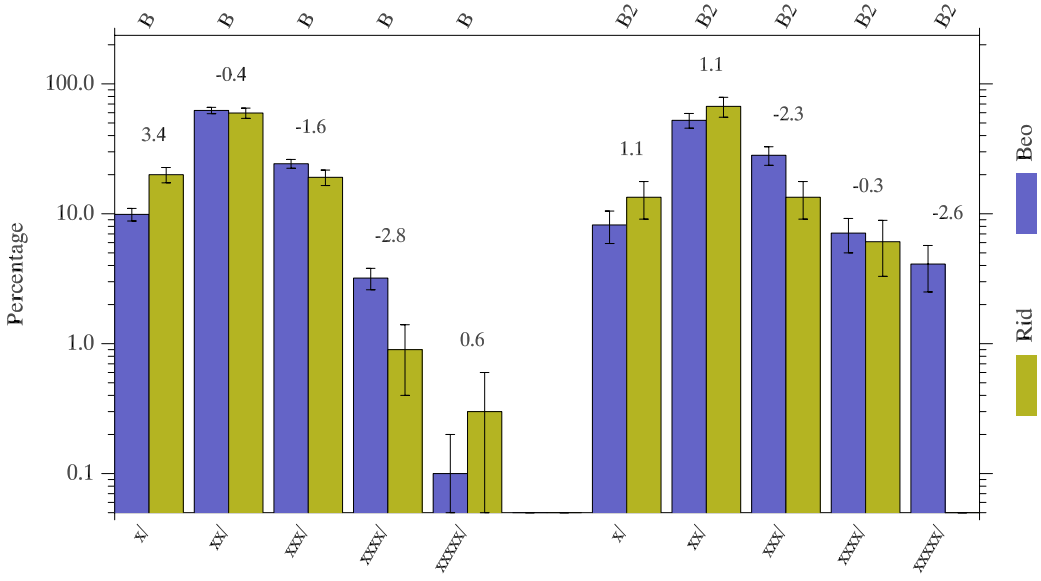

Figure 78: The light foot and the size of its strings in B and B2. Normalization labeled in the top row. Percentages in logarithmic array.[452]

The tetrasyllabic string is used in very small numbers of verses in both texts, and significantly less in the *Riddles*. The longest string in the B type, the pentasyllabic one,

[452] See Table 102 on page 60.

has equal distribution with even lower numbers. It does not influence the average size of the string, it only confirms the acceptable number of unstressed syllables in the type.[453]

In type B2, the situation is much the same as in type B with regard to the preference for particular strings. The pattern in the B types in *Beowulf* is disyllabic, trisyllabic, monosyllabic in this order. In the *Riddles*, the pattern is disyllabic, trisyllabic or monosyllabic.

The percentages of type C for the monosyllabic, the disyllabic, and the trisyllabic strings are statistically the same in the two texts. The pattern of preference is not, however, the same as in type B and B2. Figure 79 shows the corresponding percentages.

The disyllabic string is still the most frequent one in both texts. But unlike in the B types, where the pattern of distribution for the strings is different in *Beowulf* and in the *Riddles*, there are significantly more light feet in type C with a monosyllabic string in both texts. The percentages of monosyllabic and trisyllabic strings in the *Riddles* show a statistically significant difference of 1.9.[454] The sequence of preference in type C is therefore the same in both texts; it is disyllabic, monosyllabic, trisyllabic. The change in sequence compared to the one in the B types indicates that in type C, the average string size tends toward a lower number of unstressed syllables than in the B types, where the second most frequent string is the trisyllabic one.

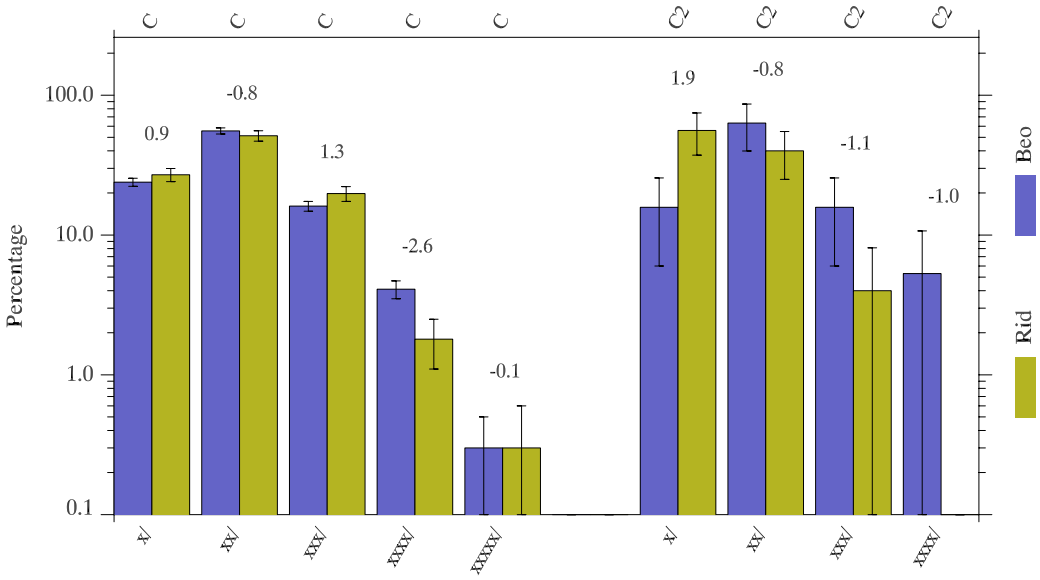

Figure 79: The light foot and the size of its strings in C and C2. Normalization labeled in the top row. Percentages in logarithmic array.[455]

In type C2 in the *Riddles*, the distribution of the various strings is different from *Beowulf* and different from the distribution in the other B and C types in the *Riddles*. In *Beowulf*, the disyllabic string is the preferred one as in the other B and C types.[456] In the *Riddles*,

[453] Calculations and discussion of the average-size string with Figure 80 on page 60 and in Table 104 on page 60.
[454] Significance of ratios in Table 103 on page 60.
[455] See Table 103 on page 60.
[456] See also Figure 78 on page 60.

the monosyllabic and the disyllabic strings are equally distributed, unlike the distribution in the other B and C types, where the preferred string is the disyllabic one as in *Beowulf*. So, no significant preference can be made out for either the disyllabic or the monosyllabic string in type C2 in the *Riddles*, only a tentative preference for the monosyllabic string. It should be noted that the evaluations for type C2 are based on very small numbers and a delimitation between significance and insignificance is difficult to assess.

All of these results show a certain preferences for a particular length of string in the six types with a light foot. In the A types, the distribution does not single out one particular most frequent string. What is interesting is the avoidance or very restricted use of the disyllabic string in *Beowulf* and the significantly more frequent use in the *Riddles*. Most of the A3 and A3b verses have either one or two additional syllables to the core verse. In type B, B2, and C, there is an overall preference for the disyllabic string with a tendency toward the trisyllabic string in the B types and toward the monosyllabic one in C. The results for type C2 are not distinct, due to the very small number of the type. The different patterns of distribution suggest that the size of the string might have something to do with the weight or length of the second foot. In order to explore this possibility, the average size of the strings in each type is calculated and plotted in Figure 80.

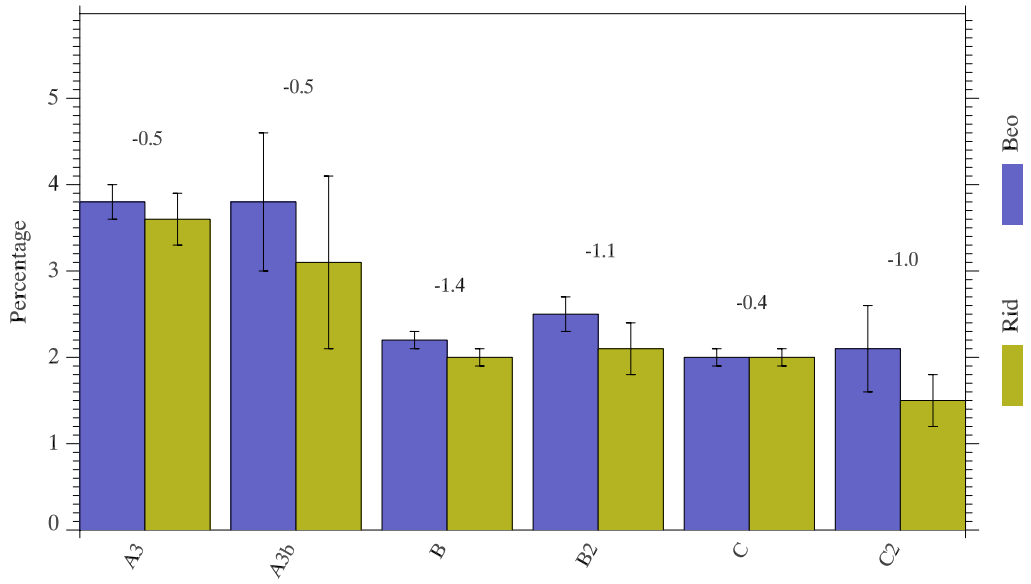

Figure 80: The average-size string in the light foot. Percentages in linear array.[457]

The evaluation of the average strings reveals first of all that there are no statistically significant differences in the percentages between *Beowulf* and the *Riddles*. Whatever the further discussion will be, the results and conclusions are the same for both texts. The figure also shows a particular distribution in the six types. The types A3 and A3b have an average of almost 4 syllables in the string, whereas the B and C types have an average of about 2. The deviation is only significant between the two groups and between B2 and C,

[457] See Table 104 on page 60.

the largest and the smallest average string in the B and the C types. The discrepancy is addressed in the discussion below.

It appears that the size of the average string is related to the length of the second foot. In the A3 and A3b types with only 2 metrical positions in the first foot, the average string is tetrasyllabic, whereas in the B and C types with 3 or 4 metrical positions, the average size is roughly disyllabic. It is difficult to deduce a plausible explanation for the significant difference within the group of the disyllabic average string, i.e. between B2 and C in *Beowulf*. The order of size cannot be related to influence of weight, since C2 is lighter than the other three types of the group with a disyllabic average string. The frequency of the foot might carry some weight. The most frequent foot Ssx shows the smallest average size. However, the dactylic foot would in this case have to be the second most frequent foot pattern among the trisyllabic patterns, if frequency is at all related to complexity and complexity in turn a decisive metrical factor. The dactylic foot is the least frequent of the long patterns with an equal distribution as the overlong compound pattern Sxxs.[458] The relation between the size of the string and weight cannot be established. What could be formulated is a general rule for the preference for an average-size string in relation to length: types with a light foot are preferably occupied by enough linguistic material to fill 5 metrical positions. The rule cannot serve as a metrical requirement; it is clearly a preference. It seems to be related to the syntactic structure of the language and to depend on the possible number of unstressed successive function words in Old English rather than to a metrical restriction on the size of the string.[459] The question of where it actually stems from is not further investigated here. The aim was to look for equivalence or disparity in the composition of the string in the types with a light foot between *Beowulf* and the *Riddles*. The aim is reached and the question of equivalence or disparity is answered: the average-size string is the same in the two texts.

The discrepancy in the number of A3 core verses, however, is not explained by the results of the average-size string. It is one of the non-standard factors in the composition of the A3 type in the *Riddles* that implies a metrical deviation from *Beowulf*.

4.3. Mismatched Foot Patterns

Foot patterns may be occupied by a word group instead of a simplex or a compound. The mismatch adds to the complexity of the verse.[460] In the evaluations of the types, quite a number of results for word feet and word group feet in the comparison between *Beowulf* and the *Riddles* show a statistically significant discrepancy. This means that in the corresponding types the metrical composition of the two texts is not statistically comparable, if the mismatched linguistic material accounts for metrical disparity in the form of added complexity. However, word groups do occur on all the feet in *Beowulf*. This means that the added complexity does not impair the metrical soundness, even if word group feet occur more often in the *Riddles*. What might still emerge as a metrical flaw in the *Riddles* are word groups in types or on feet where they are not found in *Beowulf*.

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[458] See Figure 81 on page 60.

[459] See Fulk (1992: 131).

[460] See "Deviation from the Matching Rule" on page 60.

Figure 81 shows the percentages of the S*feet that may be occupied either by a word, hence called word feet, or by a word group, hence called word group feet.

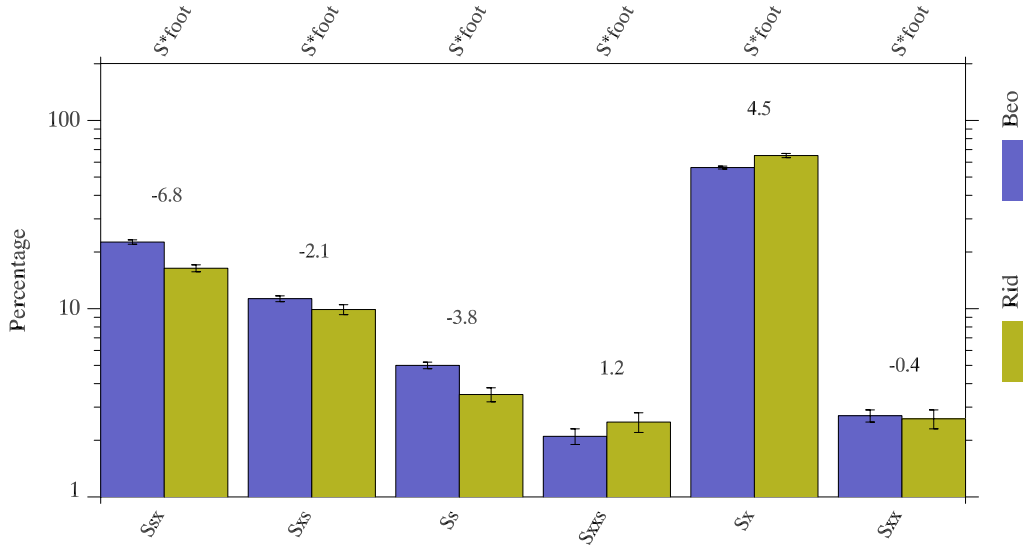

Figure 81: Distribution of the S* foot patterns occupied by a word or a word group. Normalization labeled in the top row. Percentages in logarithmic array.[461]

The percentages in Figure 81 also show the frequency of the compound feet illustrating the most frequent occurrence of the normative Ssx foot in all the patterns, including all the feet, whether filled with a compound, a simplex, or a word group.

The results confirm the findings in the calculations of the types that there are a great many more types with the standard foot Sx in the *Riddles*, and far fewer with a compound foot. It is interesting to see that the dactylic foot and the long compound foot Sxxs both have statistically equal percentages in the two texts. The two feet have two unstressed positions, an indication that the need for them is greater in the *Riddles* than in *Beowulf*, as many of the evaluations in the individual types have already demonstrated.

In the following discussion, the varying numbers of word group feet are addressed as illustrated in Figure 82. As mentioned above, the S*feet that are occupied by a word group have a mismatch between the language material and the metrical representation. The percentages for mismatched feet is significantly higher in the *Riddles* in 4 out of the 7 S feet. The result for the compound feet should be expected in view of the evaluations of the types, where it became clear that far fewer compounds occur in the *Riddles* than in *Beowulf*. Consequently, the distribution of word group feet with a compound pattern must show statistically significant discrepancies. The difference in percentage for the Sx foot must be attributed to the overall far greater number of Sx feet in the *Riddles*.[462]

[461] See Table 105 on page 60.
[462] See Figure 81 on page 60.

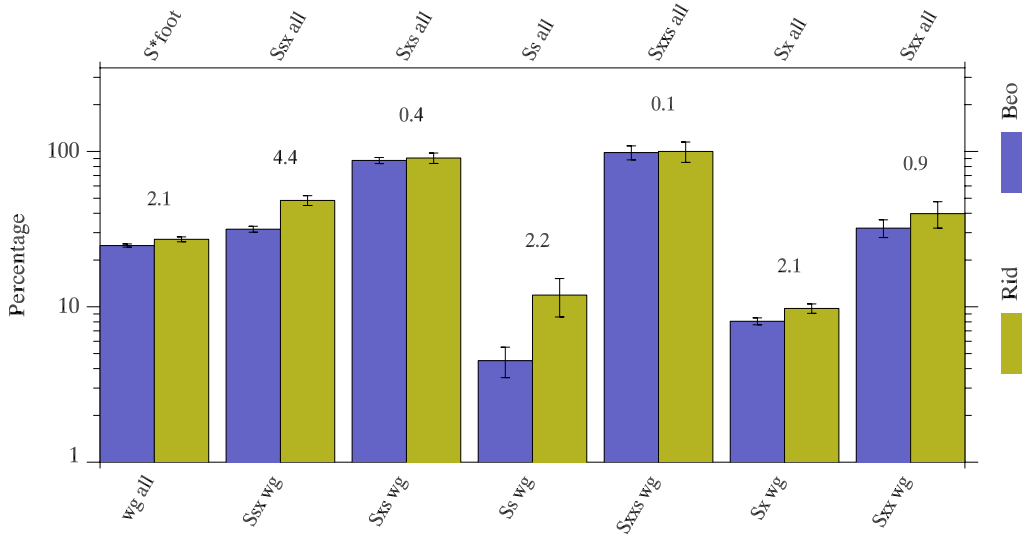

Figure 82: Word group feet. Normalization labeled in the top row. Percentages in logarithmic array.[463]

There are two groups of feet in the figure, the compound feet Ssx and Ss as well as the standard foot Sx that occur more often with word groups in the *Riddles* and the compound feet Sxs and Sxxs as well as the dactylic foot Sxx that occur with a word group with equal distribution in both texts. The 3 feet of the latter group are adaptable to a variety of syntactic structures and the *Riddle* poet makes full use of that, similar to the practice in *Beowulf*. The feet with significantly different percentages are treated individually below.

4.3.1.1. The Ssx Foot

The foot Ssx calls for an additional distinction of its underlying language material, since it may be occupied by a word group, a compound, or a simplex with a long medial syllable or a resolvable stem.[464] Figure 83 shows the calculations for the Ssx foot as the recipient for the three different categories. The result for the simplexes is included, since the simplex on the compound foot constitutes a slight mismatch with a non-root syllable on the secondary position. Figure 83 also includes the distribution of the word group feet on Ssx to the corresponding types.

The first column illustrates the percentages for the Ssx foot occupied by a compound or a simplex with a long medial syllable, i.e. the word foot Ssx, normalized on the total number of Ssx feet.

[463] See Table 106 on page 60.
[464] See "Heavy Affixes" on page 21.

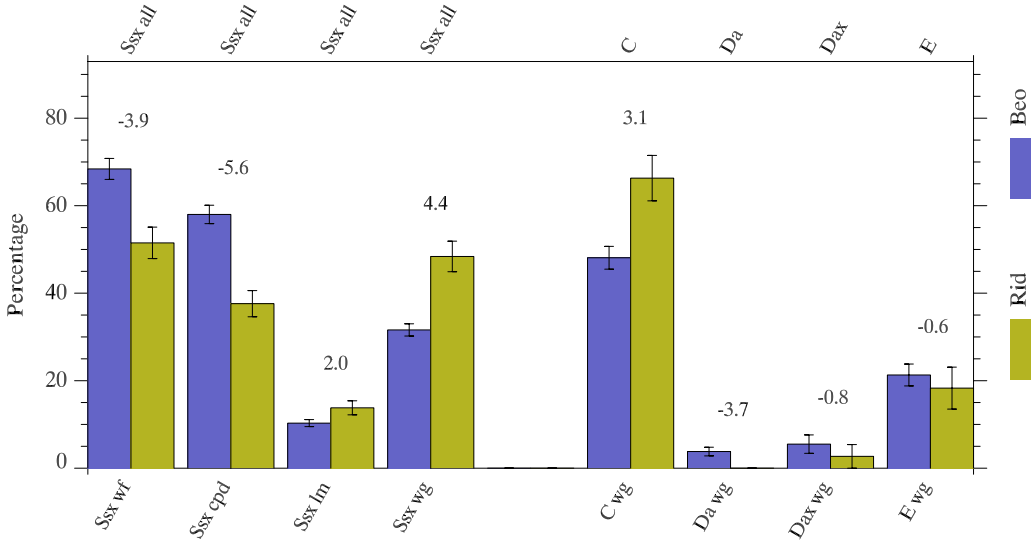

Figure 83: The Ssx foot occupied by a word or a word group and the distribution of the Ssx word group foot to types. Normalization labeled in the top row. Percentages in logarithmic array.[465]

The total of Ssx word feet and the total of compounds on the Ssx foot is larger in *Beowulf* as expected, but the share of simplexes with a long medial syllable on the Ssx foot is significantly larger in the *Riddles*, i.e. only 15% have a simplex on the Ssx in *Beowulf*, but 26% in the *Riddles*. Although the percentages are significantly different, they only confirm the previous findings that there are simply fewer compounds in the *Riddle* text and that the Ssx foot in the *Riddles* is more often occupied by a simplex with a long medial syllable or a word group than with a compound.

The distribution of the Ssx word group feet in the types shows that the very frequent and versatile C type is used more often as the recipient for word groups and simplexes on the Ssx foot than for compounds in the *Riddles*. This might have something to do with the weight of type C with only one primary position. The type seems to be perceived as less complex as the heavy types Da and E with an Ssx foot and two primary positions, since the poet uses it more often for the added complexity of word groups and simplexes. The very heavy and infrequent Da type is only used as the location for the Ssx compound. There is not one Da verse with a word group on the Ssx foot in the *Riddles*. The E type shows a similar preference as a compound type, although not as exclusively as in Da. Word group feet in type E have a share of only 18.3% in the *Riddles* and 21.3% in *Beowulf*. The same is true for the very rare Dax type, where both poets avoid word groups and use it as a compound verse. These results illustrate that the *Riddle* poet does not only use fewer compounds but also avoids the very heavy types Da and Dax and the syntactic structures their core variants represent. These findings underline the results that added complexity in the shape of extrametrical syllables or word groups are generally more readily tolerated in the lighter types than in the heavy ones in the *Riddles*.

[465] See Table 107 on page 60.

4.3.1.2. The Ss Foot

In the vast majority of cases, the Ss foot is occupied by a compound. Only 4% of all the Ss feet in *Beowulf* have a word group. The percentages may still be of interest, since the Ss foot occurs on both feet of the verse. Figure 84 shows the percentages for the Ss word feet and the word group feet and their distribution to the types that have word groups on the Ss foot.

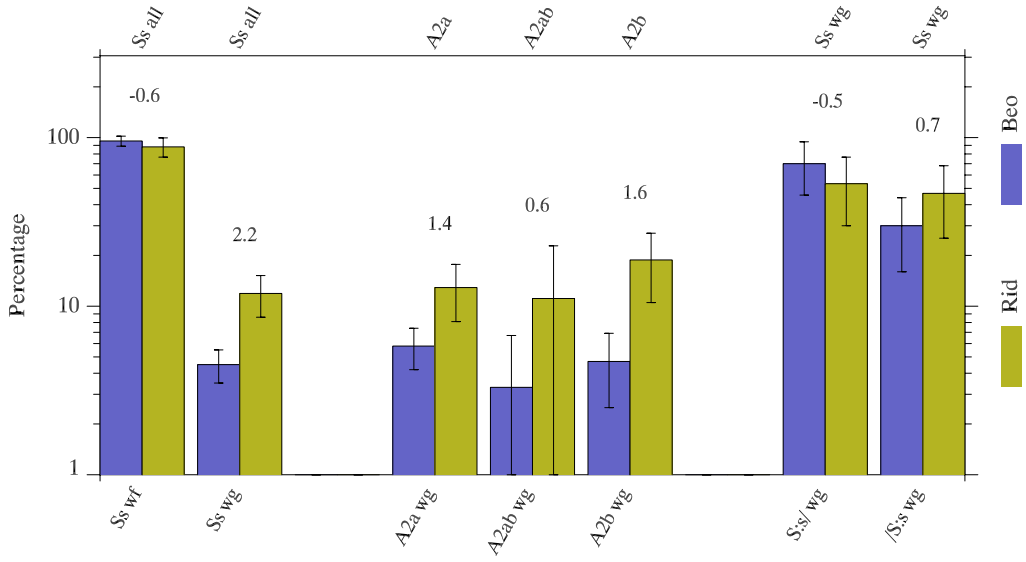

Figure 84: The Ss foot occupied by a word or a word group and the distribution of the Ss word group foot to types and to the first and the second foot. Normalization labeled in the top row. Percentages in logarithmic array.[466]

The *Riddle* text shows significantly more word groups. The distribution shows statistically similar percentages, with a slight tendency toward a significant difference in the types A2a and A2b, where a larger percentage of Ss feet are filled with a word group in the *Riddles*. The last two columns make clear that the word group on the Ss foot occurs most frequently in the first foot of the verse. And here, the distribution is statistically equal. The results only demonstrate the more frequent use of word groups on the Ss foot in the *Riddles*, but the distribution in the types is statistically equal. There is a very slight discrepancy here, and the conclusion is the same as for the Ssx foot, namely that no metrical imperfection can be made out.

The overlong compound foot Sxxs does not show any significant discrepancy. It has already been discussed in connection with the B2 type.[467]

The last of the word group feet with a significant discrepancy between *Beowulf* and the *Riddles* is the standard trochaic Sx foot.

[466] See Table 108 on page 60.
[467] See Figure 37 on page 60.

4.3.1.3. The Sx Foot

The standard foot Sx occurs in a number of verses and word groups are found in the types A1, A2b, and in the hypermetrical verses. The extended D types cannot have a word group on their first foot, it is reserved for the trochaic word.[468] Figure 85 shows its distribution as word foot and word group foot as well as its rate in the various types.

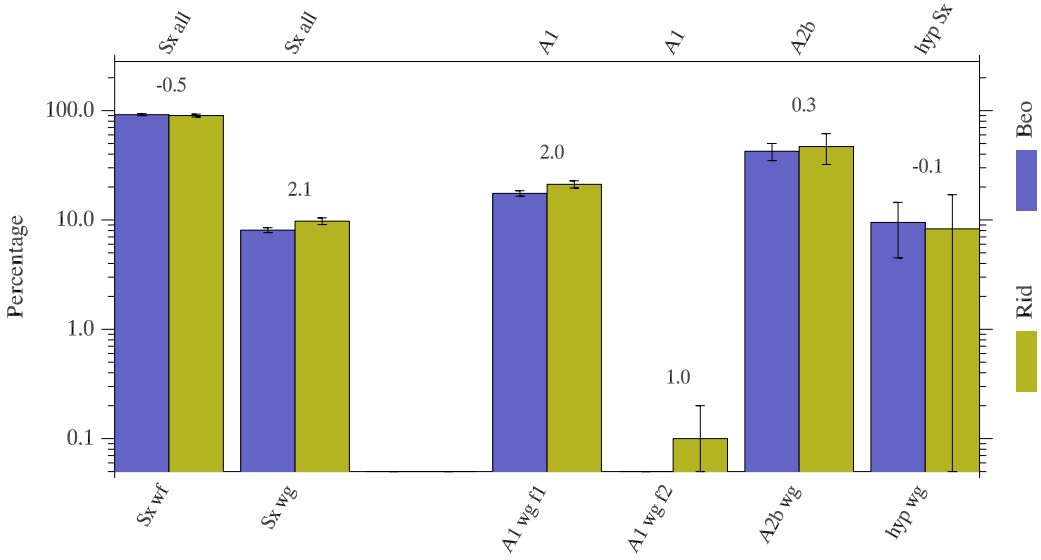

Figure 85: The Sx foot occupied by a word or a word group and the distribution of the Sx word group foot to types. Normalization labeled in the top row. Percentages in logarithmic array.[469]

The graph shows two results with two significantly different percentages. First, there is the total number of Sx feet filled with a word group. It is significantly larger in the *Riddles*, the same result as with the other word feet already evaluated. The second significant discrepancy occurs in the percentages for the word group in the first foot of the A1 type, which is the location for the majority of word group feet in both texts. The distribution of word group feet in the A2b type and in the hypermetrical verses is identical in the two texts. The result for the Sx foot is the same as for the other word group feet: the *Riddle* poet has significantly more word groups all told and in the first foot of A1, but there is no overall metrical difference in the implementation of word groups in the relevant types between *Beowulf* and the *Riddles*.

The results for the Sxx foot show equal distribution for all of the evaluated numbers except for type 3Ab. Figure 86 illustrates the calculations.

The statistically significant deviation in the percentages of type 3Ab may be explained by the exceedingly small number of 3Ab verses in the *Riddle*s. There are only 3 such verses and the lack of Sxx word group feet does not prove that a greater number of tokens would not occasionally include a word group on the first foot Sxx of the type. The result must be considered as irrelevant. Similarly small numbers of word groups on

[468] See "Notational System" on page 12.
[469] See Table 109 on page 60.

the Sxx foot in type Da2 and in hypermetrical verses and none at all in types C2 and Da2x are found in *Beowulf*, probably for the same reason.[470]

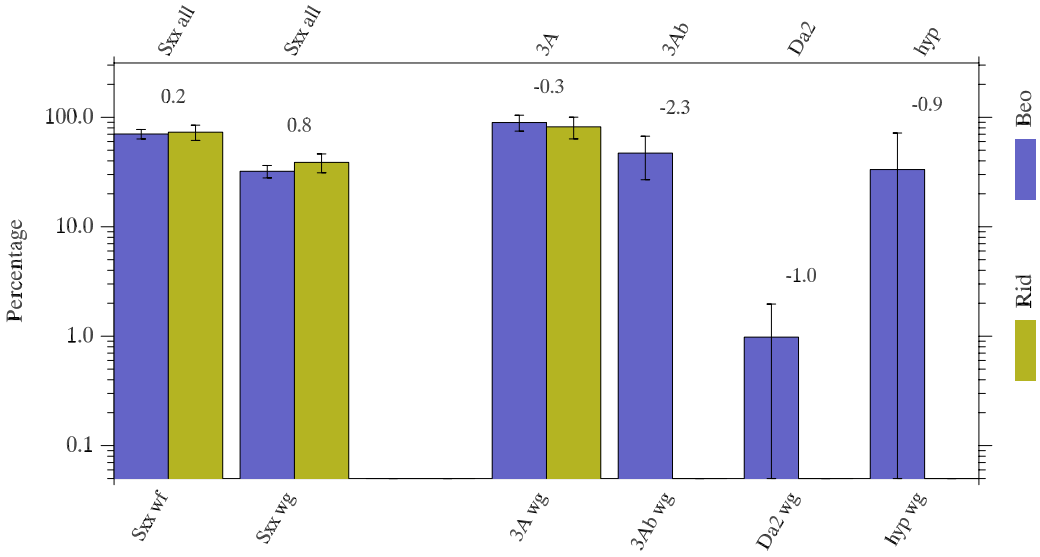

Figure 86: The Sxx foot occupied by a word or a word group and the distribution of the Sxx word group foot to types. Normalization labeled in the top row. Percentages in logarithmic array.[471]

All the results for the compound feet considered, the conclusion may be drawn that the *Riddle* text contains far fewer compound feet that accommodate either a compound, a simplex or a word group. This means that not only compounds but all of the syntactic structures represented by the corresponding compound feet are not as frequent as in *Beowulf*. So, the structure of the *Riddle* language is less varied in its syntactic composition of the compound verses. The greater number of word groups on all of the S* feet signals that there are many more unstressed words in the *Riddles* than in *Beowulf*, an indication of a different syntactic composition in the *Riddle* language.

A very peculiar result was calculated for the language material of the word group foot patterns Ssx, Sxs, and Sxxs in the respective types. The following section summarizes the findings.

4.3.1.4. Prefixes in Word Groups

The individual evaluations of the word groups in types B, B2, Db, Dbx, and E show a lower prefix count for the *Riddles* in all of them, although not with statistical significance in every case. Figure 87 illustrates the values.

The figure includes the types that have prefixes in their word groups in *Beowulf*. The first column shows the great discrepancy in the number of prefixes in the word groups of all the types included. The *Riddles* with 8.4% have only about one third of the percentage in *Beowulf* with 20.7%. Quite a number of word groups with a low count of prefixes in *Beowulf* have no prefixes at all in the *Riddles*. i.e. in both word groups of type B2, in Db,

[470] Numbers and percentages for these types are included in Table 110 on page 60.
[471] See Table 110 on page 60.

Dbx, and both groups in Db2. These results and those with very low counts in the *Riddles* are difficult to interpret individually, but the general outcome is the same across types: there are fewer prefixes in the word groups of the compound patterns Ssx, Sxs, and Sxxs in the *Riddles*.

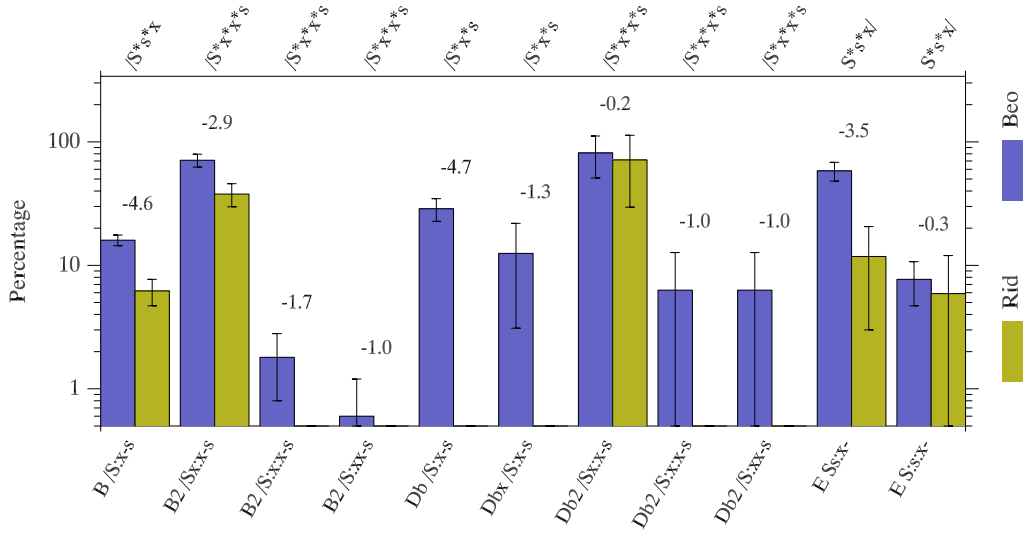

Figure 87: Prefix counts in the types with the foot patterns Ssx, Sxs, and Sxxs. Normalization labeled in the top row. Percentages in logarithmic array.[472]

Russom addresses the absence of prefixes in Old Norse and claims that prefixes, especially verbal prefixes, "created extended or epistemic senses . . . not related to root senses", which would lead to "marginal function" of the prefix and its eventual loss (Russom 1998: 5, 14, 19-20).[473] The lower count of prefixes in the *Riddles* might be parallel to the development in Old Norse. The *Riddle* language does no longer use prefixes as extensively as the more archaic language in *Beowulf*. The claim that the *Riddle* poet uses a less archaic language than the *Beowulf* poet is also supported by findings in types A1, B, and Da, and also in the greater number of lexicalized compounds in the *Riddles* than in *Beowulf*.[474]

4.4. Distribution to the A-Verse

The a-verse and the b-verse of the Old English alliterative long line are structurally different. They have variant alliterative patterns and show differing preferences for metrical types and positions for resolution.[475] In this view, the comparison of the distribution of the types to the a- and the b-verse is a crucial point in the search for metrical similarity or disparity between *Beowulf* and the *Riddles*. The detailed analyses of the placement in the a- or the b-verse are discussed in the statistical evaluations of the types. The following summary of these findings includes the figure with the percentages

[472] See Table 111 on page 60.
[473] See also Kuhn (1929: 92).
[474] See pages 38, 60, 60, and 60.
[475] Sievers (1893: §7.2), Bliss (1958: §7), Russom (1987a: 49f.), and Suzuki (1996: 341ff.).

of the distribution to the a-verse of those types with significant and close-to-significant statistical differences and the discussion of these results. First, a brief commentary on the types that do not show statistical difference. There are three types in *Beowulf* that are restricted to the a-verse, namely A3, A3b, and 3A.[476] In the *Riddles*, the percentages are 100% for type A3b and 3A, but not for A3. The calculations for the a-verse do not indicate a significant difference of the 93% of a-verses in the *Riddles* and the 100% in *Beowulf*. The discrepancy for the b-verse of 6.5% for the *Riddles* and 0% for *Beowulf*, however, do show statistical significance. The question is whether the exclusive implementation of the A3 type in the a-verse in *Beowulf* is indeed an absolute restriction. For type A2ab for instance, the *Riddles* have a ratio of 100% in the a-verse, whereas *Beowulf* has 93%, which is quite the inverse result as calculated for the A3 type. The number of verses is of course an important factor. Small numbers involve large errors and allow for assumptions rather than valid statements. Therefore, the attempt at an explanation for the unusual placement of A3 types in the b-verse in the *Riddles*, must be considered from a statistical point of view. With the results of the distribution to the a- and the b-verse in mind, the restriction to the a-verse of all the types with a percentage of more than 90% should be formulated as a rule with very few, but acceptable exceptions, rather than an absolute metrical requirement. This assumption is supported by the fact that with the exception of A3, all the other types that are subject to this restriction do not show any significant deviations in either calculation, to the a-verse or to the b-verse.[477] In this view, type A3 in the b-verse would be exceptional and deviant from a strong preference, but not downright unmetrical, all the more, since in the Norse tradition the A3 type is composed in the b-verse.[478] If the a-verse is considered the normative location for the A3 type on the other hand, the 9 A3 b-verses are certainly outside the metrical rules of *Beowulf*.

The significant and close-to-significant discrepancies occur with the types A1, A2a, B, Da, Da2, Db, and E. Figure 88 shows the percentages of these types.

The significant difference in the A1 type shows that the *Riddle* poet has a significantly smaller number implemented in the a-verse. The distribution of the variant forms of A1 shows a smaller portion of a-verses for every variant, although some with a non-significant difference.[479]

The same pattern of distribution holds for type A2a. Both A types have fewer a-verses in the *Riddles* than in *Beowulf*. It should be noted, however, that the calculations for type A2a is somewhat misleading. The variant A2a types with an unresolved primary position in the first foot are attracted to the b-verse due to the unresolved sequence at the end of the verse, where unresolved sequences are most natural. The variants should therefore be calculated separately. The results show that the distribution to the a-verse is indeed statistically equal in the *Riddles* and in *Beowulf* if the number of variants is deducted from the total number of A2a types. And both texts show a higher and

[476] See Table 112 on page 60 for the distribution of all the types.

[477] Table 112 on page 60 includes the values for the statistical deviation for the b-verses in the last column.

[478] Russom (1998: 49ff.).

[479] See Figure 7 on page 32 or Table 24 on page 60.

statistically equal percentage for the variant with the unresolved sequence in the b-verse.[480]

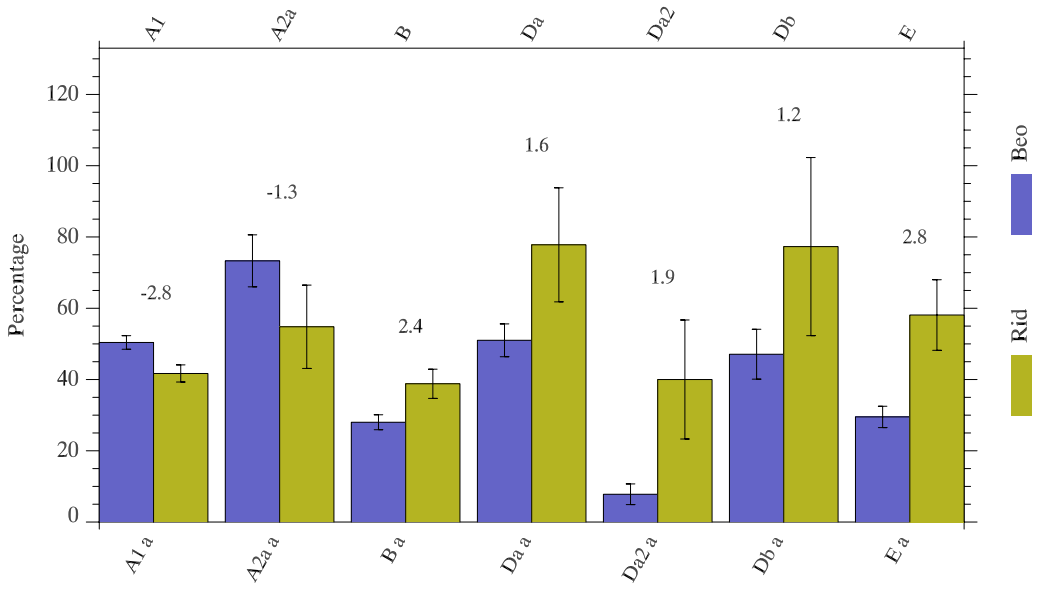

Figure 88: Distribution of a-verses in types with values of statistical significance. Normalization labeled in the top row. Percentages in linear array.[481]

An interesting distribution is seen in type B, where a significantly greater number are a-verses. The percentage of B verses is equal in the *Riddles* and in *Beowulf*, and so is the percentage of word groups on the compound foot.[482] But the share of B types and of the variant with a word group are significantly more often a-verses in the *Riddles*. This means that the *Riddle* poet considers the B type and the particular variant with a word group as more complex and the a-verse the more appropriate location for them due to declining frequency of the variant with an internal prefix, similar to observance in Old Norse.[483] The same argument applies for the other heavy types in the figure. All of their variants show a higher percentage for the a-verse. Type A1 has significantly more b-verses than a-verses in the *Riddles*. The A1 type as the simplest of all and the most frequent and versatile type must make room in the a-verse for the more complex heavy types that are preferably composed as a-verses, even more so in the *Riddles* than in *Beowulf*.

4.5. Double Alliteration

Certain types are preferably composed with double alliteration in *Beowulf*.[484] Figure 89 shows the evaluation of single vs. double alliteration in the types concerned arranged according to the percentages in *Beowulf* in descending order. The number of verses with double alliteration are normalized on the total number of the type.

[480] The calculations are included in Table 34 on page 60.
[481] See Table 112 on page 60 and Table 113 on page 60.
[482] See Table 52 on page 60.
[483] See "Prefixes in Word Groups" on page 60.
[484] See also "Alliteration" in Russom's Theory on page 10.

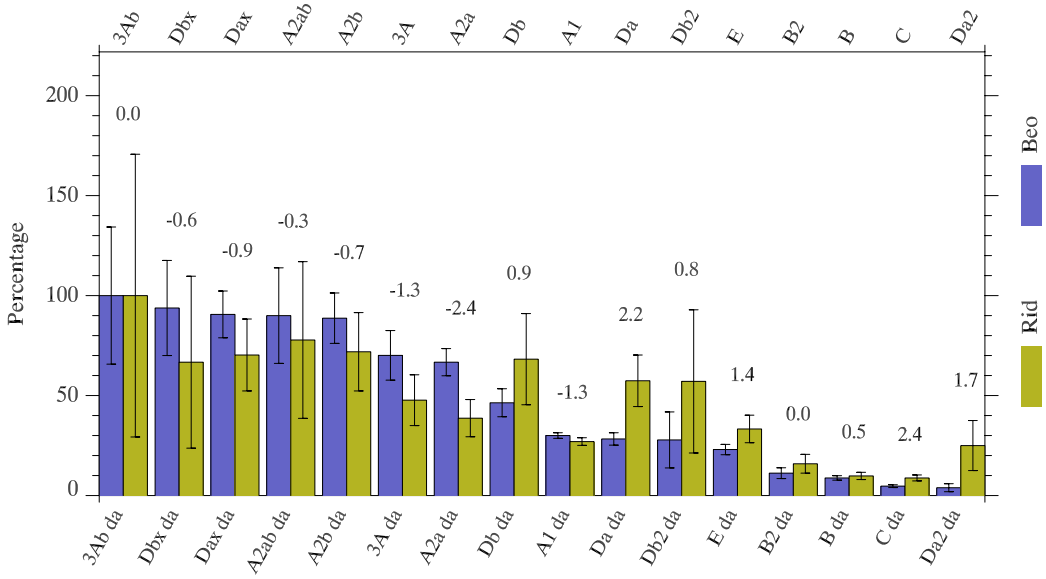

Figure 89: Double alliteration in a-verses of all types according to frequency in *Beowulf*. Normalization labeled in the top row. Percentages in linear array.[485]

In most types, the distribution of double alliteration is equal in the two texts. Three results have a significant difference in their percentages, types A2a, Da, and C.

The *Riddle* poet seems to disregard the obvious preference of the *Beowulf* poet to compose his A2a types with double alliteration. The result here is also influenced by the variant with an unresolved sequence in the first foot, as we have seen in the distribution to the a- and the b-verse of the A2a type in the previous chapter.[486] The variant occurs more often in the b-verse, where double alliteration is excluded. And the calculations for double alliteration normalized on the number of a-verses shows indeed the same statistical distribution in both texts with 90% for *Beowulf* and 70% for the *Riddles* with a significance of 1.0.[487] The distribution of A2a types may consequently be regarded as the same in both texts.

The result for double alliteration in type Da in the *Riddles* ties in with other findings of its variant forms: the *Riddle* poet avoids added complexity through extrametrical syllables and word groups on the compound foot, where the *Beowulf* poet exploits these possibilities, although in a very small number of verses. The Da type in the *Riddles* is strictly composed as core verse or with a whole-verse compound. It shows a strong tendency for the a-verse and has double alliteration. The large number of double alliteration is another indication that Da is a typical compound type and composed very closely to the most frequent Da variant in *Beowulf*.

Type C as the second most frequent type has equal shares in the two texts. It shows a significantly higher percentage of mismatched feet in the *Riddles* than in *Beowulf*. Since compounds do not occur as often in the *Riddles* as in *Beowulf*, it is obvious that type C will have a larger share of word groups. The verses with word groups in the compound

[485] See Table 114 on page 60.
[486] See discussion on page 60.
[487] Calculations are included in Table 32 on page 60.

foot are more often in the a-verse and have double alliteration in the *Riddles*, yielding the overall larger number of double alliteration. This might indicate an awareness of the complexity of variants with word groups.

Type E in the *Riddles* shows a tendency to be composed more often with double alliteration. But a conclusive statement cannot be made about the reason for this. The calculations show very similar percentage for all the variant forms and in both calculations, with normalization on the number of type E verses or of type E a-verses.

Double alliteration as a preference in the composition of the types seems to apply in the *Riddles* quite in the same way as in *Beowulf*. The few exceptions seem to support the assumption that the *Riddle* poet uses double alliteration preferably in the heavy types. Moreover, their more complex variants seem to be used with a more pronounced preference for the a-verse and double alliteration in the *Riddles*. The A2a type is again an exception in this regard. Double alliteration is not implemented to the same extent as a marker for complexity, as it seems to be in the heavy types. The result may be connected with the more liberal treatment of all the A types in the *Riddles* in connection with preferences observed in *Beowulf*.

4.6. Resolution

Resolution is a metrical device that constitutes the specific linguistic unit of the syllabic sequence of a short stressed syllable followed by an unstressed syllable represented by one stressed metrical position. Resolution is associated with metrical stress and is therefore regulated by rules of stress and stress subordination.[488] The analysis of positions of resolved and unresolved syllabic sequences of all the types in the two texts will reveal how the *Riddle* poet handles resolution and suspended resolution in all types compared to the practice in *Beowulf*.[489] The following analysis deals with the resolvable sequences in four subsections on resolved primary and secondary positions and on unresolved primary and secondary positions.

4.6.1. Resolution of Primary Positions

Resolution is obligatory on most primary positions. Suspended resolution is treated in detail with the evaluations of the types concerned and will be summarized in the subsections on page 174 and on page 174.[490] Figure 90 includes the percentages for all the types with resolution on the primary position in the first foot.

The total of resolved first primary positions is very much lower in the *Riddles* than in *Beowulf*. The percentages for the individual types are for most types statistically the same in the *Riddles* as in *Beowulf*. However, there are two significant deviations and four clear tendencies. The percentages for type 3A has significantly more resolved sequences in the *Riddles* and type Dax significantly fewer. In type Da, Da2, Dbx, and E the *Riddles* have fewer resolved sequences on the first primary position, although with a value below significance. It seems that the *Riddle* poet uses resolution on the first stressed position

[488] See "Resolution" on page 60.

[489] See also the calculations and comments on resolved sequences and their distribution to the a- and the b-verse in *Beowulf* in Suzuki (1996: 196-205) and Hutcheson (1995: 73-78).

[490] See A1 on page 35, A2a on page 47, A3 on page 60, and Da on page 60.

more often or with the same percentages as the *Beowulf* poet for the A types and less often or with similar percentages on the relevant type D and E patterns.

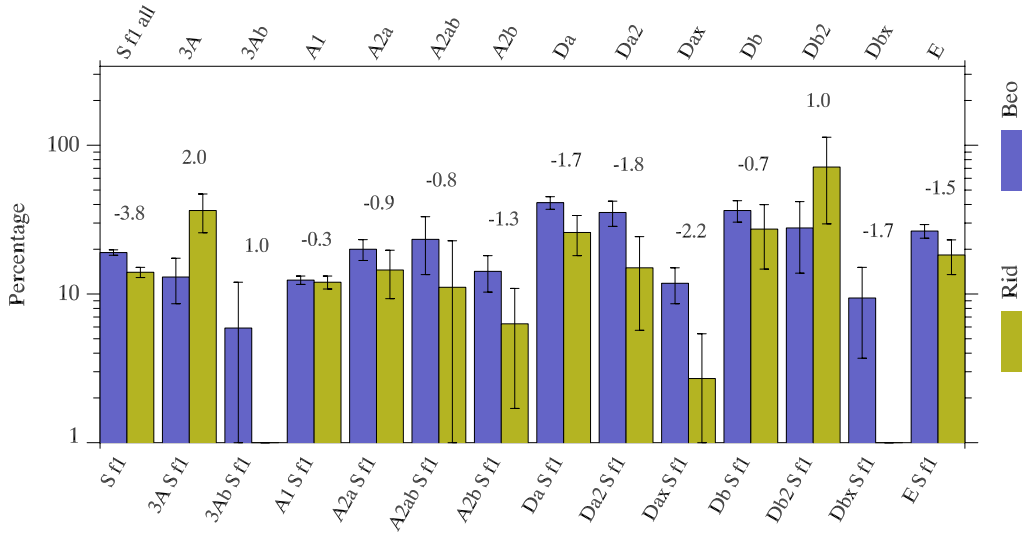

Figure 90: Resolved primary positions in the first foot of all types. Normalization on the total number of readable types with a resolved S position in the first foot. There are no respective 3Ab and Dbx verses in the *Riddles*. Percentages in logarithmic array.[491]

Figure 91 shows the a-verses with a resolved primary position of all these types.

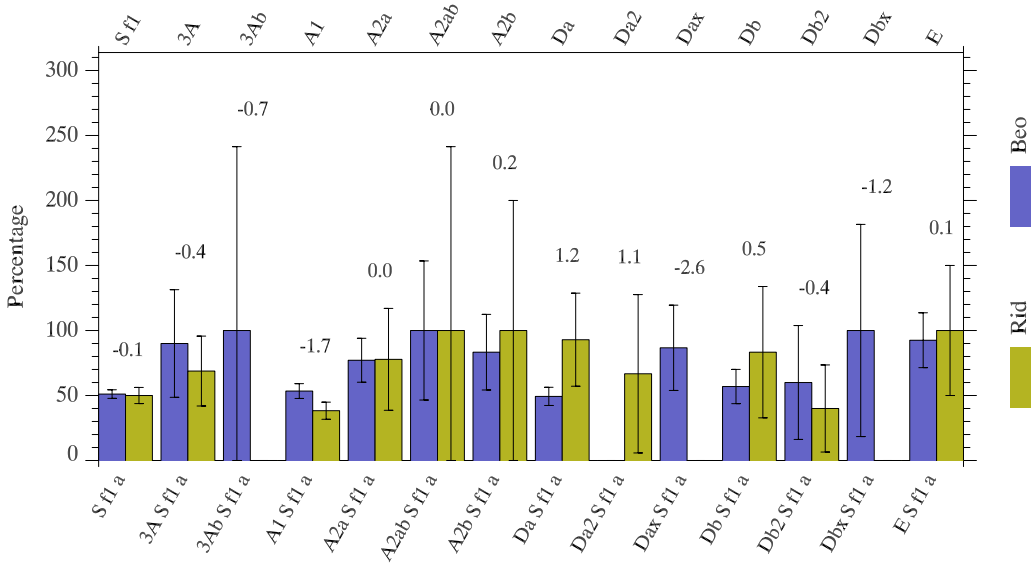

Figure 91: A-verses with resolved primary positions in the first foot. There are no respective Da2 a-verses in *Beowulf* and no respective Dax a-verses in the *Riddles*. Normalization labeled in the top row. Percentages in linear array.[492]

[491] See Table 115 on page 60.
[492] See Table 116 on page 60.

The percentages for resolution on the primary position in the second foot are shown in Figure 92 and Figure 93. The results are separated to improve the visual appearance of the graphs.

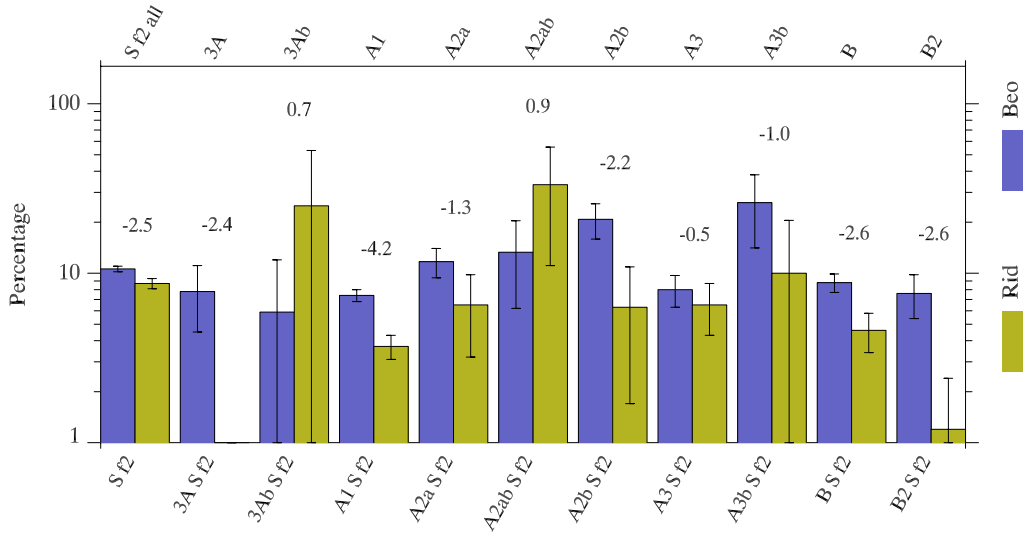

Figure 92: Resolved primary positions in the second foot of types A to B. Normalization on the total number of readable types with a resolved S position in the first foot. Percentages in logarithmic array.[493]

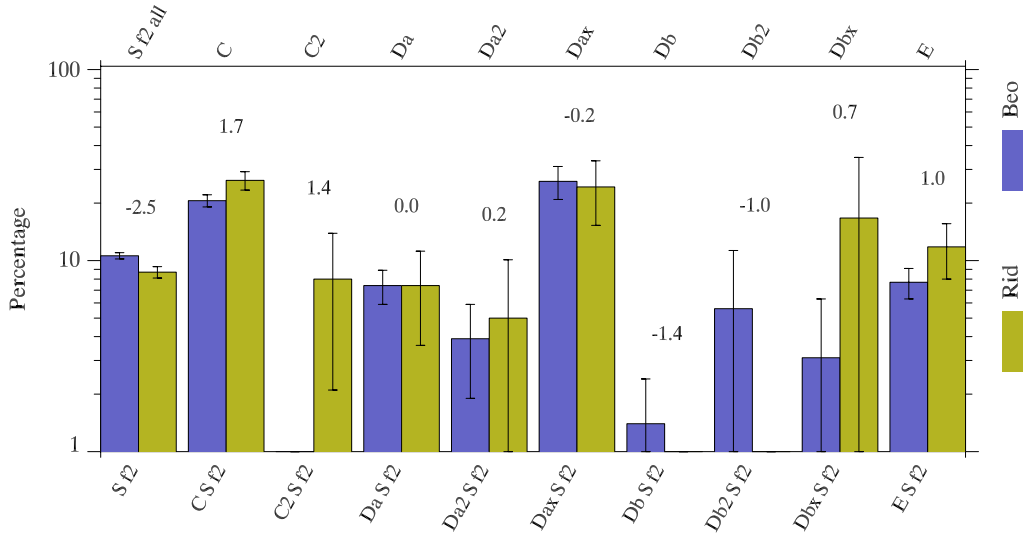

Figure 93: Resolved primary positions in the second foot of types C to E. Normalization on the total number of readable types with a resolved S position in the first foot. Percentages in logarithmic array.[494]

[493] See Table 117 on page 60.
[494] See Table 118 on page 60.

Just as in the comparison of resolution in the first foot, there are significantly fewer resolved sequences on the first primary position in the second foot of all types in the *Riddle* text than in *Beowulf*. Significant values are found in the types 3A, 3Ab, A1, A2b, B, and B2. The distribution here is different from the one in the first foot, where the A types have an equal or greater number of resolved sequences relative to the heavier types.[495] An interesting tendency can be made out in the types C and C2, where the *Riddles* have more resolved sequences. It appears that type C and C2 belong to the group of the A types in which the *Riddles* have more or a statistically equal number of resolved sequences on the first position of the verse.

The distribution of a-verses with a resolved sequence on the primary position in the second foot is statistically equal in both texts. Figure 94 shows the calculations for types A to B.

The value for type 3A is irrelevant, since there are no 3A verses in the *Riddles* with a resolved primary position in the second foot. All other values for the significance are very low, i.e. the results are statistically equal.

The percentages of a-verses are mostly above 50% in both texts. In types B and B2, the percentage is around 30%. It is obvious that both poets implement resolved sequences in the second foot of types A to B in the same fashion.

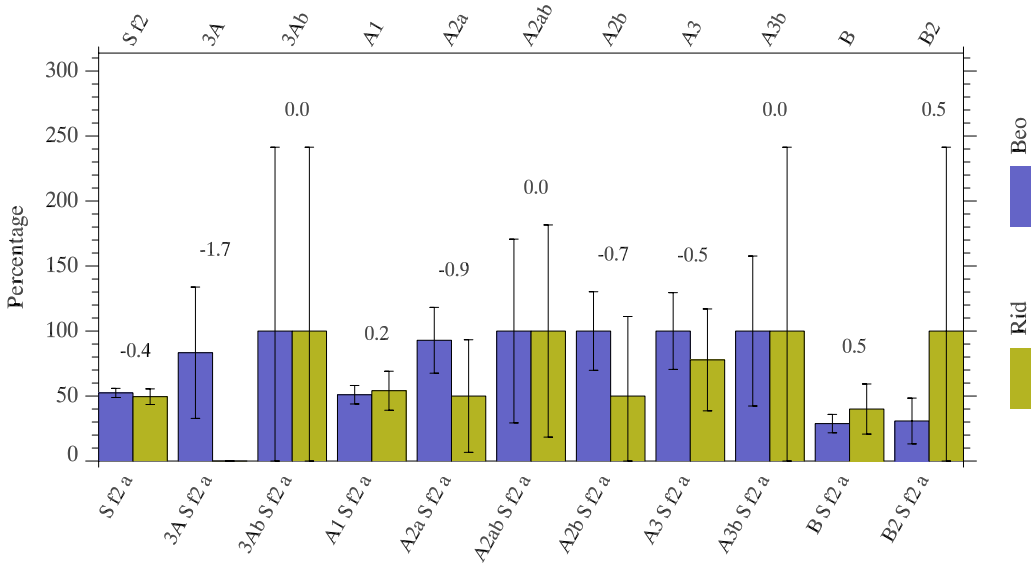

Figure 94: A-verses with resolved primary positions in the second foot in types A to B. No such 3A verses occur in the *Riddles* in the a- or the b-verse. Normalization labeled in the top row. Percentages in linear array.[496]

[495] See Figure 90 on page 60.
[496] See Table 119 on page 60.

The results for types C to E do not show any statistical discrepancies. The calculations are illustrated in Figure 95.

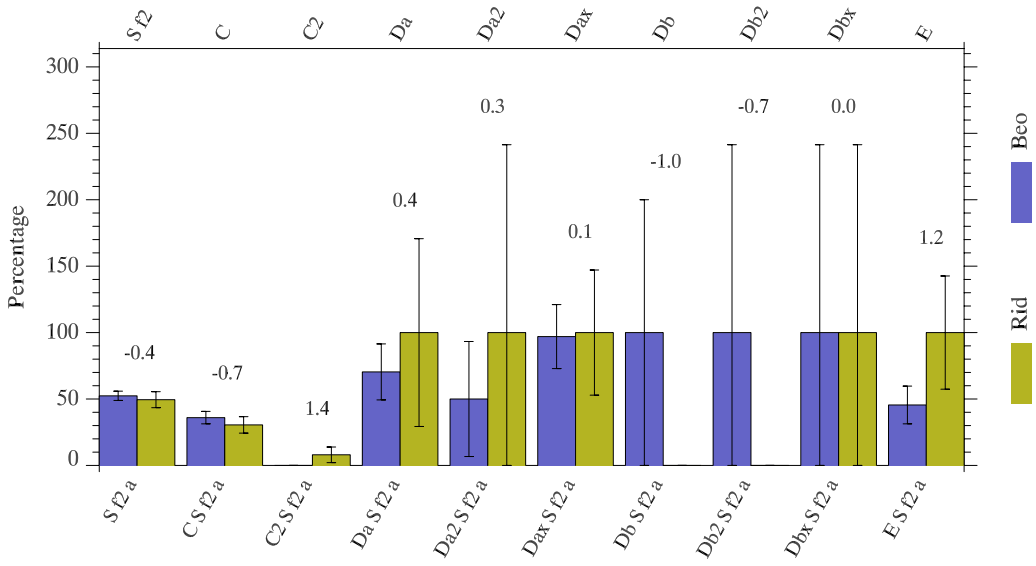

Figure 95: A-verses with resolved primary positions in the second foot in types C to E. There are no respective a-verses in type C2 in *Beowulf* and in type Db and Db2 in the *Riddles*. Normalization labeled in the top row. Percentages in linear array.[497]

Here as well, the percentages are rather high. In *Beowulf*, between 50% and 100% for all types and about 30% for type C. The percentages in the *Riddles* are similar with no significant difference. The small numbers must be taken into account in the evaluation of the individual types. So, both poets implement verses with a resolved primary position with equal percentages in the a-verse.

4.6.2. Resolution of Secondary Positions

Resolvable sequences on the secondary positions are subject to Kaluza's Law.[498] In this subsection the evaluation is restricted to the number of resolved secondary positions disregarding the applicability of Kaluza's Law. Suspension of resolution is treated in detail in the statistical evaluations of the types where it occurs on the secondary positions.[499] The topic will be further addressed in the subsection on all of the unresolved sequences on the secondary position on page 174.

Figure 96, Figure 97, and Figure 98 show the percentages for resolved secondary positions in the first and the second foot of all types and the distribution to the a-verse. The calculations are normalized on the total number of readable types with a resolved s position in the first or the second foot.

Figure 96 includes the calculations for the resolved secondary positions in the first foot. The result of the calculation for all the resolved sequences on the s position of the

[497] See Table 120 on page 60.
[498] See "Resolution" on page 60.
[499] See discussions for type C on page 60, type Da on page 60, and type E on page 60.

first foot shows fewer examples in the *Riddles* with a significance of 1.9. The difference is due to the evaluation for type A2a, where the discrepancy is clearly significant. For types A2ab and E, the percentages are equal in the two texts. The same holds true for the distribution to the a-verse, where no statistical difference is calculated.

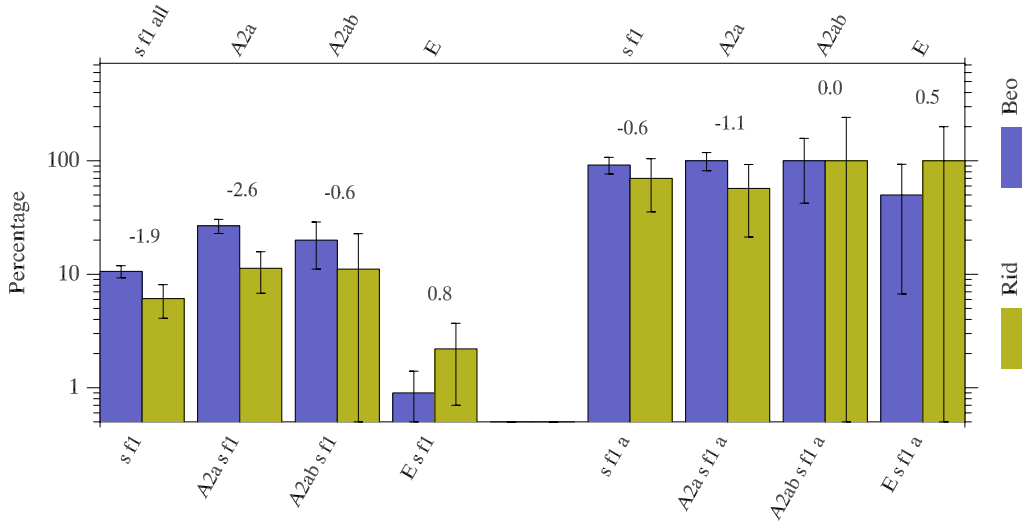

Figure 96: Resolved secondary positions in the first foot of all types and distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[500]

Figure 97 shows that there are no significant discrepancies between *Beowulf* and the *Riddles* for resolved secondary positions in the second foot, although there is a tendency in the *Riddles* to have more resolved secondary positions in the second foot in the calculation for all types concerned.

The calculations in Figure 98 also show that the distribution of a-verses with a resolved secondary position in the second foot is equal in *Beowulf* and in the *Riddles*..

[500] See Table 121 on page 60.

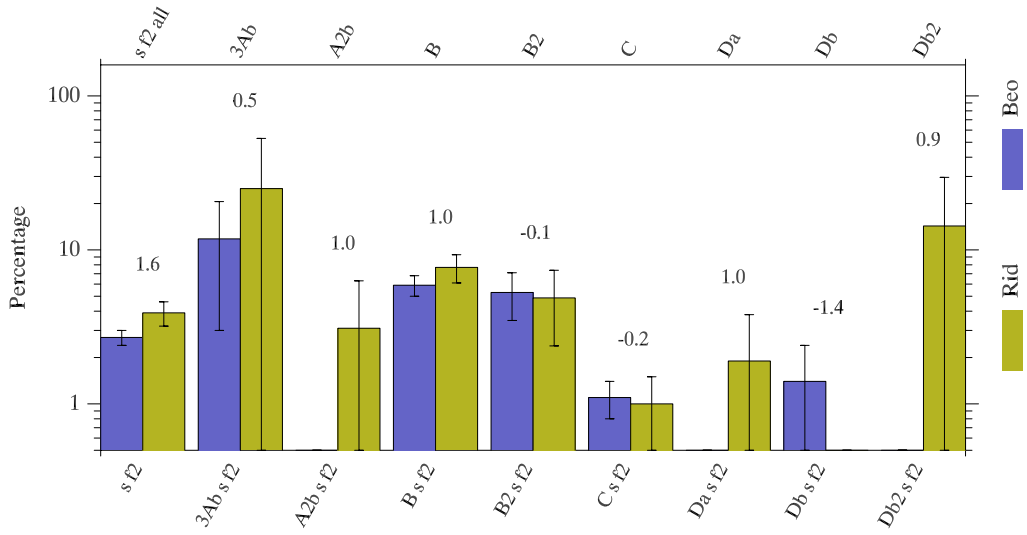

Figure 97: Resolved secondary positions in the second foot of all types. Normalization on the total number of readable types with a resolved s position in the second foot. There are no respective A2b, Da, and Db2 verses in *Beowulf* and no Db verses in the *Riddles*. Normalization labeled in the top row. Percentages in logarithmic array.[501]

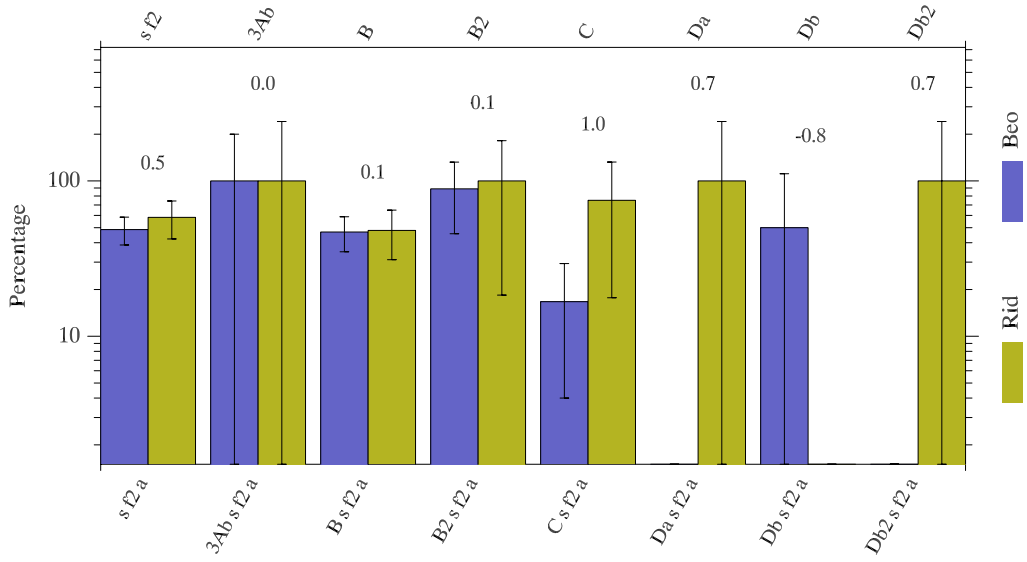

Figure 98: A-verses with resolved secondary positions in the second foot. There are no respective Da and Db2 verses in *Beowulf* and no Db verses in the *Riddles*. Normalization labeled in the top row. Percentages in logarithmic array.[502]

[501] See Table 122 on page 60.
[502] See Table 123 on page 60.

4.6.3. Unresolved Primary Positions

Unresolved sequences on primary positions occur in the second foot of the types A1, A2a, A3, Da and Dax in *Beowulf*. There are no unresolved sequences in Dax in the *Riddles*. Figure 99 shows the percentages for these types. It also includes the calculations for the respective a-verses with an unresolved primary position.

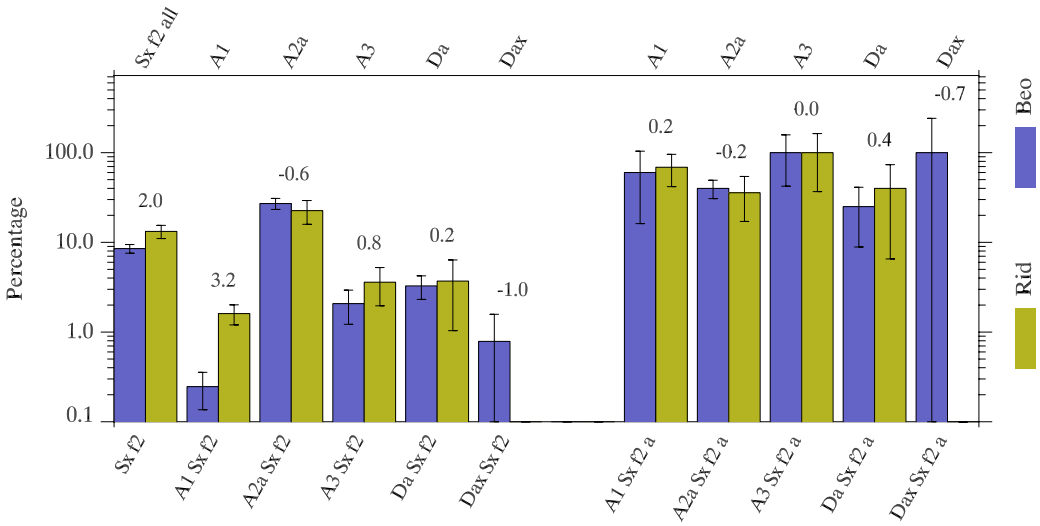

Figure 99: Unresolved primary positions and their distribution to the a-verse. Normalization labeled in the top row. Percentages in logarithmic array.[503]

Suspension of resolution on the primary position of all types occurs more often in the *Riddles* than in *Beowulf*. The significant difference appears in type A1. Its more frequent occurrence in the *Riddles* may be explained by formulaic usage. This very unusual type is discussed in detail on page 35. It should also be noted that the same phenomenon is observed in Old Norse, where an unresolved resolvable sequence occurs more often in the first foot of an A1 type than in *Beowulf*.[504]

The proportions of a-verses with an unresolved primary position of the types concerned show equal values for both texts.

4.6.4. Unresolved Secondary Positions

Unresolved secondary positions in the first foot, i.e. in type E, are very rare. There are only 5 verses in *Beowulf* and none occur in the *Riddles*.[505] Her again there is a parallel to Old Norse poetry, where non-resolution of the secondary position does not occur at all.[506]

Unresolved secondary positions in the second foot, however, do occur in considerable numbers in the types C, Da, and Dax. Figure 100 illustrates the calculations.

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[503] See Table 124 on page 60.

[504] Russom (1998: 107)notes 18 instances in the smaller Old Norse corpus he investigated vs. the 5 A1 verses in *Beowulf*.

[505] See "Resolution and Suspended Resolution in Type E" on page 60.

[506] Russom (1998: 111).

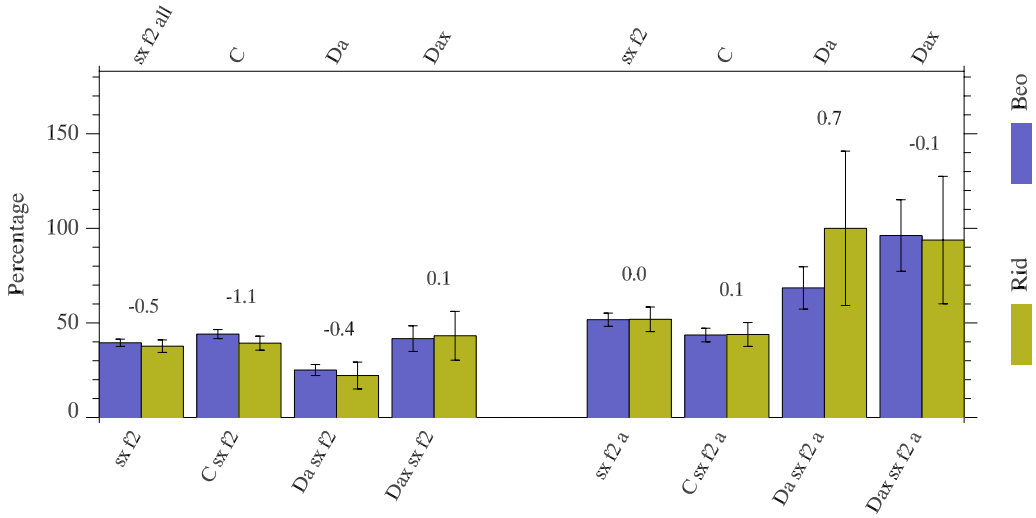

Figure 100: Unresolved secondary positions in the second foot and their distribution to the a-verse. Normalization labeled in the top row. Percentages in linear array.[507]

Unresolved secondary positions occur in all three types with the same percentages in *Beowulf* and in the *Riddles*. The distribution to the a-verses is also statistically equal for all three types in the two texts.

To sum up the results for resolution and suspension of resolution, the *Riddle* poet has significantly fewer resolved primary positions in the first and in the second foot, if the total number in all types is calculated. The affected types are not quite the same for the first foot as for the second foot. The results do not show a clear pattern, however. The only obvious outcome is the lower percentages in the *Riddles* of resolved primary positions in the first foot of the heavier types and in the second foot of most types. The small numbers render interpretation difficult. But it seems that the *Riddle* poet generally implements fewer resolvable sequences than the *Beowulf* poet, on the primary positions in both the first and the second foot.

The results for the resolved secondary positions are not more informative. The percentages for the *Riddles* tend to be lower for the first foot and higher for the second foot. But again, small numbers are involved and statistically valid results are hard to come by. So, a truly different handling of resolvable sequences cannot be perceived, but neither can an equal implementation be affirmed with an argument of any importance.

The shares of a-verses with a resolved primary and a resolved secondary position are on the whole equal in the two texts. Here, the results are more obvious despite the small numbers, since all of them show rather low values for the statistical significance with very few exceptions of values above 1.

Unresolved primary positions occur with equal percentages in the A and D types concerned with one exception: in type A1, they occur significantly more frequently in the *Riddle* text. The result carries little weight from a metrical point of view, since it is

[507] See Table 125 on page 60.

probably due to repetition of a formulaic expression that is also found in *Beowulf* and therefore confirmed as an acceptable type. The calculations for the shares of a-verses are statistically equal for all the types.

Unresolved secondary positions show equal distribution in the types as well as in their shares of a-verses.

4.6.5. Kaluza's Law

Kaluza's Law regulates resolution with regard to position of the resolvable sequence and syllable quantity.[508] The evaluation of the calculations for the types in which it applies is important, since the observance of the law does not simply reflect the poet's adherence to sophisticated metrical rules, but relates to the synchronic phonological stage of the language with implications on the dating of poetic texts: Kaluza's Law is lost in the late period of Old English poetry.[509] The comparison in this section focuses on the observance of Kaluza's Law in two positions. First, the unresolved sequences on the primary position in the second foot of types A1, A2a, A3, and Da are discussed.

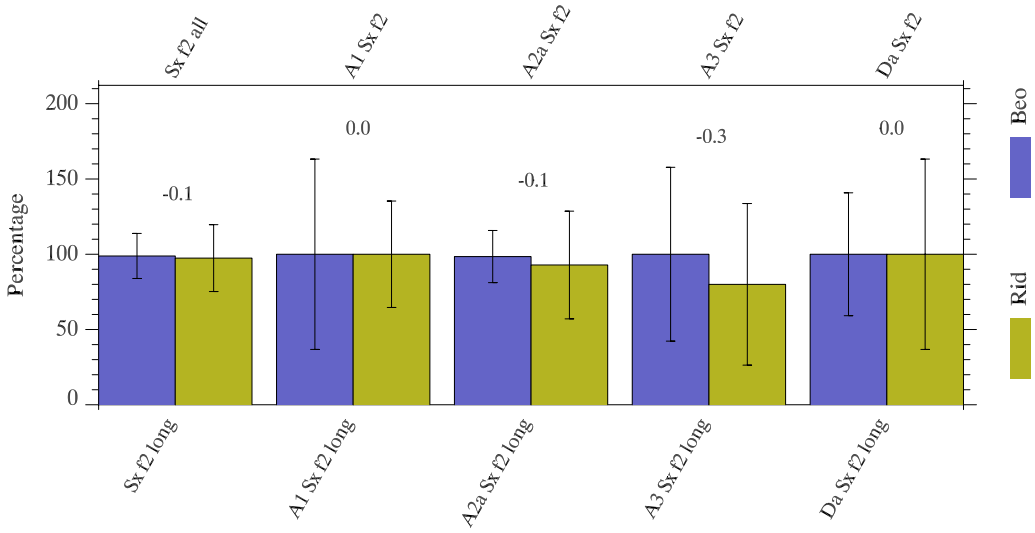

Figure 101: Long and short endings of the second syllable of the unresolved primary positions in the second foot of the types A1, A2a, A3, and Da. Normalization labeled in the top row. Percentages in linear array.[510]

Detailed discussions are included in the sections on resolution and suspended resolution of the individual types.[511] Figure 101 includes the calculations for the primary positions.[512]

[508] See also "Resolution" on page 60.

[509] Fulk (1992: 125).

[510] See Table 126 on page 60.

[511] See especially the discussions of resolved secondary positions in A2a and E, which are not included here.

[512] There is one hypermetrical verse in *Beowulf* with an unresolved primary position on the last foot: Beo 1165b with the scansion xx//Ss/Sx, which may be counted among the A2a types. It has a long ending. Moreover, the *Beowulf* text has one such verse in type Dax. The *Riddle* text has one such verse in types 3A and B. They are discussed with the individual types. See discussion of the Dax verse in *Beowulf* on page 60 and of the 3A and the B verse in the *Riddles* on page 58 and 60 respectively.

The results are all statistically equal. Violation of Kaluza's Law on the unresolved primary position is extremely rare in both texts. In *Beowulf*, we find it in A2a and in the *Riddles*, it occurs in A2a and A3. Both poets seem to observe the law with great accuracy on the primary positions of these types.

The calculations for unresolved secondary positions show a greater number of verses that do not conform to Kaluza's Law. The problem partly arises with verses where the scansion is ambiguous.[513] Since I followed Russom's scansion for the *Riddles*, the problem will not affect the comparison of the percentages.

Figure 102 includes the calculations for the unresolved secondary positions in types Da, Dax, and E.

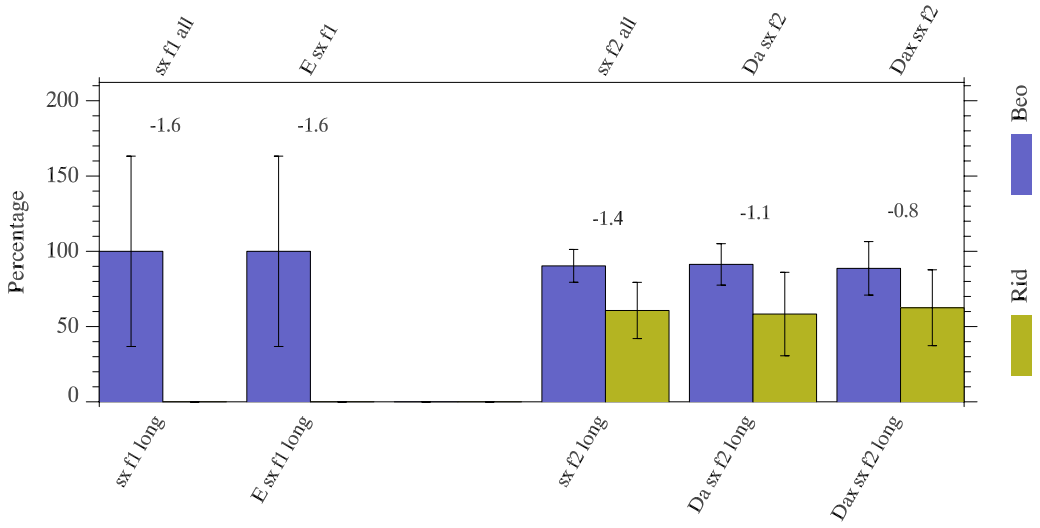

Figure 102: Long and short endings of the second syllable of the unresolved secondary positions of types E, Da, and Dax. There are no resolvable sequences in type E in the *Riddles*. Normalization labeled in the top row. Percentages in linear array.[514]

The first column shows the percentages for the unresolved secondary position in type E. There are no such verses in the *Riddles* and the calculated value of 1.6 for the significance is irrelevant with regard to the observance of Kaluza's Law. The very small percentage of such verses in *Beowulf* (1.2%) indicates a restriction of resolvable sequences on this position. The non-existence of such verses in the *Riddles* may therefore be a sign that the *Riddle* poet is aware of the complexity of this variant and avoids it. The limited size of the text does not allow for the conclusion that such a variant is absolutely excluded from the metrical composition of the *Riddles*.

The calculations for the long endings in types Da and Dax do not show significant discrepancies. Nevertheless, there is a tendency toward significantly fewer long endings in the *Riddles* for both types. This means that the number of violations of Kaluza's Law is

[513] See for example Russom's Da types Beo 1727a, 1840b, 2751a and their scansion in Suzuki (1996: Index of Verses) and Fulk's (1992: 163) comments on ambiguous scansion.

[514] See Table 127 on page 60.

slightly higher in the *Riddles* in types Da and Dax. As mentioned above, ambiguous scansion may be responsible for some of the differences. The details are not investigated in the present analysis.

5. Conclusion

The evaluation of the composition of the individual types in *Beowulf* and in the *Riddles* has yielded discrepancies and similarities in a number of features. Each of these features has been discussed as a phenomenon across types in order to assess its implication on the metrical composition of the *Riddles*, either as a general deviation or as a specific difference in a particular type or a similarity in the handling of metrical rules and restrictions. The sum of these results and what they imply should answer the question whether and in what way the metrical composition of the *Riddles* is different from *Beowulf*.

There are differences in the overall frequency of each type and its ranking in *Beowulf* and in the *Riddles*. The differences in both frequency and ranking are caused by the poets' divergent interpretation of the inherent complexity of a type and the choice of syntactic material. The frequency of a type is not defined by its complexity alone, it is also an expression of its usefulness in accommodating important syntactic structures. Type B, for instance, has a rather rare compound foot and has less than standard weight. It is therefore considered complex. The rare compound pattern, however, is very often occupied by a word group in type B, and so, in combination with the light foot and a variable string of unstressed words, the type offers the location for great syntactic variation of its underlying language material. Consequently, its high frequency in the two texts expresses the inherent complexity negotiated by the possibility of versatile implementation. Frequency and ranking of types are therefore to a certain extent indications for the frequency of specific syntactic structures. The comparison of the ranking of the types between *Beowulf* and the *Riddles* shows a statistically equal rank for the three most frequent types, A1, B, and C, as well as for most of the least frequent types, A2b, A2ab, A3b, the hypermetrical verses, Db2, and 3Ab. The frequencies are also the same with the exception of type A1, of which the *Riddles* have many more. The differences are most obvious in the heavy types and in a few of the lighter types. The *Riddle* text has far fewer heavy types, especially the ones with the compound feet Ssx and Sxs, types E, Da, and Db, where the calculation of the statistical difference shows values for the significance of 5.5, 8.2, and 4.8 respectively. The very low frequency of Da and its lower ranking in the *Riddles* cannot be attributed only to a smaller number of compounds in the *Riddles* and therefore a lesser need for compound patterns. There is also a difference in ranking in *Beowulf* that does not correspond to the complexity in the hierarchy of deviations: with its compound pattern in the non-normative first foot, type E should rank lower than Da. The reason for the lower count lies in the archaic syntax of the language material that Da types often represent. Consequently, the very low percentage of Da types is expressive of a less frequent use of archaic syntax in the *Riddles* than in *Beowulf*. It appears that a less archaic syntax with the use of fewer compounds presupposes an increased implementation of function words. The greater need for syntactic structures without compounds calls for normative or light types that allow for a wide variety of underlying language material that include a number of function words. The different frequencies and ranking of the lighter types confirms the argument. Type A1 is more frequent in the *Riddles*, and so are the types A3, B2, 3A, and C2. All of these types have only one or two stressed positions and offer many possibilities for the accommodation of additional unstressed syllables. And indeed, the

evaluations of the variants with internal extrametrical syllables show equal or higher percentages in all of the types in the *Riddles* with the exception of the very heavy ones, A2ab, Da, and Db. They are mostly composed as core verses and used as the locations for compounds. The higher percentages in the *Riddles* of realizations of foot patterns occupied by a word group also illustrate the smaller number of compounds and the greater need for additional extrametrical syllables. All of the patterns show equal or higher percentages of word groups in the *Riddles* for their total number. and all of the patterns in most types conform to this result, with an exception in the Da and the E types, where word groups are non-existent in the *Riddles* or even rarer than in *Beowulf*. The results of the *Riddles* for the higher frequencies of lighter types and for higher percentages of unstressed words as well as word groups on foot patterns confirms the assumption that the *Riddle* poet uses syntactic patterns with more unstressed words than the *Beowulf* poet and fewer with compounds. The syntactic structure of the *Riddles* on the whole represents a less archaic non-heroic diction that is so typical for *Beowulf*.

It seems that the difference in syntax confirms a later date for the *Riddles* than for *Beowulf*. The development of the Old English language tends toward a general loss of linguistic stress toward the end of the period that might be reflected in the language of the *Riddles*: there are fewer compounds than in *Beowulf*, but more compounds with a lexicalized second constituent and more simplexes with a long medial syllable on the Ssx foot.[515] All of these results are possibly connected to a decline in compound productivity and to lexicalization of compound forms due to loss of stress. A similar tendency is observed in the Norse tradition, where change in language affected a change in meter.[516] The question is whether the different syntax necessarily implicates a later date of composition.

The similarities between the two texts suggest that the metrical compositions are not very different. A number of preferences and restrictions that are observed in *Beowulf* and are therefore typical for the classical metrical norm are handled in the same way in the *Riddles* as in *Beowulf*. Anacrusis is implemented conservatively, i.e. with equal or significantly fewer token verses in all types concerned, and with the same preference for the a-verse. Only monosyllabic words stand in anacrusis in the *Riddles* and, as in *Beowulf*, they are either prefixes or negative particles. The heavy types with a long compound foot pattern are preferably composed in the a-verse with even higher percentages than in *Beowulf*. The very complex and rare types represent to a great extent the linguistic material of the basic type, a clear preference in *Beowulf* and observed in the *Riddles* with at least the same percentages. Compounds with lexicalized root constituents show a very similar statistical distribution with regard to placement and stress assignment. Artistically inventive compound forms in the *Riddles*, although with relatively few evaluated examples, possibly hint at a certain productivity in compounding no longer attested in late poetry. There is evidence for careful compounding and for good control of syncopated and pre-epenthetic forms in avoiding syllabic sequences in compounds that are restricted in *Beowulf*. Violations of the posited restrictions show the same statistical distribution in both texts. Double alliteration is applied much in the same way in both texts in the composition of the types. In the heavy types and in their more

[515] Fulk (1992: 251ff.).
[516] Lehmann (1956: 105), Russom (1998: 169-170).

complex variants, the *Riddle* text shows a more pronounced preference for the a-verse and double alliteration than *Beowulf*. The results for resolvable sequences do not yield a clear picture. Resolution seems to be implemented in the *Riddles* with similar preferences for the a-verse as in *Beowulf*. Kaluza's Law, which is no longer observed in the late period, is observed in the *Riddles* with only a slight tendency toward more violations than in *Beowulf*, but not with statistical significance.

So, the *Riddles* are composed in another syntax, but show metrical features of the classic norm. The differences in the syntactic composition of the *Riddles* illustrate the use of a more idiomatic language than in *Beowulf* with its heroic diction artificially infused with archaisms. The *Riddle* poet might have addressed a different audience than the *Beowulf* poet, an audience less familiar with archaic heroic diction or less inclined toward heroic subject matter. However, the literary quality of the *Riddles* seems to testify to a sophisticated and informed audience who would know to interpret the many allusions to topics of high education for the solutions of the *Riddles*. The different syntax and similar metrical composition of the *Riddles* reflect the genre and style of the poet's writing. He describes a wide variety of objects, household items, animals, musical instruments, objects from nature or religion, etc. Many of these objects are far from heroic subject matter and are described in the more idiomatic language that is better suited for their depiction than a language infused with an arsenal of archaisms particular to heroic diction. This does not mean that the *Riddle* poet does not use archaic heroic diction at all. The occurrence of compound patterns in the *Riddles*, and especially the Da type, which often requires archaic syntax, suggest the use of heroic diction in the *Riddles* as a poetic device in particular metaphorical passages rather than a style.

The similarities in the composition between the *Riddles* and *Beowulf* demonstrate careful handling of crucial metrical features of the classic norm independent of heroic diction. But the artistic verse craft attests the native speaker's internalized grammar of archaic diction that is still available to all at the time of composition. In this view, the *Riddle* text shows a different kind of artistic effort than *Beowulf*, but probably of the same time.[517] The *Riddles* are carefully crafted within the metrical demands of the classic norm with a more idiomatic syntax that reflects the progressing development of the language not obscured by archaic diction. The *Riddles* must have been composed in an outstanding monastic environment in a personal taste of a widely read poet, well versed in many realms of learning and of considerable poetic talent.

The conclusion mirrors the rather broad study that does not include many details of metrical or syntactic difference nor the analysis of the number of verses with questionable patterns. It therefore gives general answers, which necessarily raise a host of questions that call for more detailed investigations into the matter of metrical difference and metrical norm. The *Riddles* seem to be an example of a metrical composition different from *Beowulf* but of a good metrical quality.

[517] Fulk (1992: 408).

Appendix A: Definitions

In the chapter "Methods of Scansion" on page 5 only the very basic metrical rules of Russom's (1987a) theory are discussed. Here I include a number of definitions and discussions of rules that I refer to in the treatment of specific topics or verses for easy reference. The topics are listed in alphabetical order.

Anacrusis

The term designates syllables outside the core pattern in types with an S position in the first foot. One or rarely two such syllables in anacrusis occur in the types A1, A2b, and some of the D types. The following examples show the type with the most frequent anacrustic verses

Beo 25a	*in mæġþa gehwære* 'in each tribe'	(x)S^{A}x/(x-)Sx	A1

Syllables in anacrusis are usually occupied by unstressed prefixes or the negative particle *ne*. A handful have a disyllable in anacrusis. There are restrictions in the implementation of anacrusis in *Beowulf*. It does not occur, for instance, in verses with a compound pattern as the first foot, the so-called reversed patterns (Russom 1987a: 34). Most of the verses with anacrusis occur in the a-verse with double alliteration.[518] Anacrusis is one of the metrical features that render a verse more complex.[519]

Complexity

Complexity in Russom's theory is related to the frequency of the phonologically significant word-unit in Old English. The frequency of the phonological pattern of words defines the complexity of the metrical pattern it represents. The trochaic word is by far the most frequent in Old English, so the metrical pattern Sx is considered the least complex foot pattern and consequently the standard.[520] As a general rule, any deviation from the standard foot or verse adds to its complexity, deviation from length, weight, standard position, and from the matching rule.[521] Other metrical features that imply complexity are alliteration, anacrusis, extrametrical syllables, whole-verse compounds, and resolvable sequences.[522] Accumulation of complexity may lead to very complex verses with extremely low frequency within a given corpus. Russom measures the metricality of low-frequency verses against their deviation from his categorical rules on complexity:". . . any unmetrical verse differs from *all* metrical verses in one or more fundamental ways." (Russom 1987a: 32). So, in his theory, the unmetricality of a verse or its mere complexity is clearly established by definition and not by frequency, although

[518] See the distribution in "Double Alliteration" on page 60.

[519] See "Extrametrical Syllables in Relation to Complexity" on page 60. For detailed discussions of anacrusis see Sievers (1893: §§14, 83), Bliss (1958: 40ff.), Russom (1987a: 33ff.), Hutcheson (1995: 97ff.), and (1998), Suzuki (1996: 384, 315ff.).

[520] See Rule II on page 17 and Russom (1987a: 31, 48ff.).

[521] See "Deviation from the Norm" on page 60.

[522] See discussions in "Metrical Features in Relation to Complexity" on page 60. Individual metrical features are arranged in alphabetical order.

frequency is in turn an indication of the complexity of the individual metrical pattern. The type Db2x, for instance, has only one single verse in *Beowulf*. Since it does not contravene any categorical rule, Russom accepts it as type in *Beowulf*, despite its extremely low frequency. On the other hand, the usefulness of a verse pattern as a location for frequent sentence structures in Old English poetry compensates for the added complexity in the shape of deviation from the standard verse, as for instance in types C and B, the second and third most frequent verse types in *Beowulf* and in the *Riddles* (Russom 1987a: 47f.).[523] So, frequency is negotiated between complexity and usefulness.

Deviation from the Norm

Russom arranges the foot patterns in a matrix according to length and weight to demonstrate why certain patterns occur in *Beowulf* despite their relative complexity (Russom 1987a: 28):

Table 17: Attested Verse Patterns in *Beowulf*

	Second Foot						
First Foot	S	Sx	Ss	Sxx	Ssx	Sxs	Sxxs
x				**x**	**x**	**x**	**x**
S				**x**	**x**	**x**	**x**
xx		**x**	**x**	**x**	**x**	**x**	**x**
Sx		**x**	**x**	**x**	**x**	**x**	**x**
Ss		**x**	**x**				
Sxx		**x**	**x**				
Ssx	**x**						
Sxs							
Sxxs							

The matrix shows reliably attested patterns in *Beowulf* (**x**). The deviation from the normative verse Sx/Sx is obviously systematic: the attested patterns are found in a coherent cluster in the upper right corner of the chart. This visualizes two main points:

- Long or heavy feet are mostly paired with light, short or normative feet
- Long or heavy feet preferably occur in second position.

Both points need further explanation:

a) Pairing: Not all the long or heavy feet are paired with light, short or normative feet. There are two exceptions:

- Ss/Ss two heavy feet of normative length
- Sxx/Ss a long foot of standard weight and a heavy foot of standard length

[523] See "Frequency of All Types" on page 60.

The violation of the otherwise observed rule seems to be acceptable, if either length or weight conform with the norm.

b) Position: Long and/or heavy feet preferably occur in second position. There are three exceptions to the positional constraint, namely two feet for compound patterns and the foot for the trisyllabic simplex can stand in first position:

- Ssx a long and heavy foot of the normative compound pattern[524]
- Ss a heavy foot of normative length
- Sxx a long foot of normative weight

In each of the exceptions one element conforms with the norm.

Russom concludes from these findings that only one deviation from the norm within a single verse is allowed: either length or weight must conform with the established standard of the verse, or one of the feet must represent a normative word pattern, or the normative position of the long and/or heavy feet must be maintained. He derives two categorical rules on length and on position that cover all the exceptions (Russom 1987a: 29):

Deviation from Normative Length

(13) (a) A short foot must be paired with a long foot.
(b) Only one foot may be long.

Rule (a) amounts to a requirement of at least four metrical positions: the shortness of the one foot is compensated by the length of the other. The result is a verse of at least normative length: four metrical positions.

Note that the short foot S in combination with a long and heavy second foot yielding a verse of four metrical positions occurs four times as often as the normative foot Sx in the same combinations, which would result in a verse of more than four metrical positions. This means that the *Beowulf* poet shows a strong preference for verses with four metrical positions (Russom 1987a: 30).

Rule (b) eliminates foot pairings of two long feet. It limits the length of the verse to six metrical positions and forbids six-position verses with three positions in each foot: the longest foot has four positions and can be paired with a short one or a normative one, adding no more than two positions to the overall length of the verse.

[524] The most frequent compound pattern Ssx is regarded as normative. See Figure 81 on page 60.

Deviation from the Constraint on Position of Heavy Feet

Russom (1987a: 29, 31) calls verses with a heavy foot in first position *reversed half-lines*. His rules are:

(15) (a) Reversed half-line patterns may not contain a foot of the form Sxs or Sxxs.
(b) Reversed half-line patterns may not exceed normative length.

Rule (a) excludes from first position the two feet with no normative quality: they are both long and heavy and do not represent a normative compound pattern. They must therefore stand in their usual position. Rule (b) imposes normative length as compensation for the unusual position of the heavy foot in reversed half-lines.

Deviation from Normative Weight

There is no categorical rule for constraints in weight. However, there is a clear tendency in *Beowulf* for *balanced pairings*, i.e. the combination of a light foot with a heavy foot. Although there are light and heavy verses, the poet seems to aim at standard weight as often as possible: there are almost two verses of the form x/Ssx, x/Sxs etc. to one of the form S or Sx combined with long feet Ssx, Sxs etc. (Russom 1987a: 29).

Deviation from the Matching Rule

The deviation from the normative matching of the linguistic material to the foot pattern adds to the complexity of the verse (Russom 1987a: 14ff.). Mismatches occur in feet that are occupied by a word group instead of a compound or a simplex. In the first verse of *Beowulf*

Beo	*Hwæt, Wē Gārdena* 'What, we Spear-Danes'	x:x/S^{A}sx	C

the linguistic material is accurately represented by the compound foot Ssx. It is occupied by a compound proper name, i.e. a word and not a word-group. The following examples illustrate the mismatch. In

Beo 259b	*wordhord onlēac* 'word-hoard unlocked'	S^{A}s:x-/S	E

a word-group consisting of a heavy short compound and an additional monosyllable makes up the Ssx foot or in

Beo 202a	*Ðone sīðfæt him* 'That journey [to] him'	xx/S^{A}x:s	B

a simplex and an additional syllable with secondary stress occupy the Sxs compound foot. A mismatch may also occur in the first foot of A verse on the positions Sx or Sxx as in

Beo 2b	*þrym gefrūnon* '[the] glory [we] heard'	S^{A}:x-/Sx	A1
Beo 8a	*wēox under wolcnum* 'grew under [the] sky'	S^{A}:xx/S^{A}x	3A

Further examples of mismatches and their metrical significance are discussed with the individual verse types and their statistical distribution.[525]

Metrical Features in Relation to Complexity

Apart from the deviations from the normative verse discussed above, some metrical features involve complexity. They are briefly described in the following sections in alphabetical order.

Alliteration in Relation to Complexity

Alliteration is an integral part of the Old English alliterative long line. Double alliteration may be an optional stylistic feature in a number of types. Russom's theory views the second alliterating syllable as a marker for the leftward boundary of the second foot in verses of standard weight, where the linguistic material does not correspond to the standard two-word pattern (e.g. a word group instead of a compound or extrametrical syllables) and where the recovery of the underlying pattern is not obvious. According to Russom, it also facilitates the scansion of heavy verse types, including type E. In certain verses, double alliteration is obligatory.[526]

Extrametrical Syllables in Relation to Complexity

Syllables in anacrusis cause higher complexity than internal extrametrical syllables.[527] Extrametrical syllables in patterns with an S position in the first foot add to the complexity of the verse. Extrametrical syllables in patterns with a light foot, on the other hand, reduce the complexity of the verse.[528]

Mismatched Linguistic Material in Relation to Complexity

The underlying linguistic material of a metrical pattern is mismatched, if a foot is occupied by a word group instead of an individual word. The mismatch adds to the complexity of the verse.[529]

Resolution in Relation to Complexity

Resolution or suspended resolution of a resolvable sequence on an s position does not add to the complexity of the verse.[530] Unresolved sequences that occupy S positions add to its complexity.[531]

Whole-Verse Compounds in Relation to Complexity

Whole-verse compounds never occur with anacrusis, an indication of the complexity of such verses.[532] Compound formations have a special status. Whole-verse compounds may be considered as two words, filling an entire verse. Compounds with subordination of

[525] See also "Heavy and Light Affixes" on page 60.
[526] See "Alliteration" on page 10 and Russom (1987a: 83ff.).
[527] See "Anacrusis" on page 60 and Russom (1987a: 34, 38).
[528] See "Notational System" on page 12 and Russom (1987a: 38).
[529] See "Notational System" on page 12 and (Russom 1987a: 14).
[530] Russom (1987a: 45).
[531] See "Resolution" on page 60 and Russom (1987a: 29, 45).
[532] Russom (1987a: 37).

stress on the second constituent occupy one of the compound foot patterns. Through further lexicalization they may eventually become large simplexes.[533]

Epenthesis

The phenomenon of the syllabic or in Sievers' term the "silbenbildende" resonants l, m, n, and r of West Germanic origin is well known. In very simplified terms, epenthesis or West Germanic parasiting is the name for the development of an epenthetic vowel before post-consonantal final resonants in monosyllabic PIE words in West Germanic dialects.[534] The following forms shows examples taken from Wright (1925: §219):

Table 18: Examples of West Germanic Parasiting and Corresponding Non-Parasited Forms

OE **West Germanic**	**PIE** **Proto-Indo-European**	**Gothic** **East Germanic**	**Old Icelandic** **North Germanic**[535]
æcer	**akr*	*akrs, akr*	*akr*
fugul, fugol	**fugl*	*fugls, fugl*	*fogl, fugl*
māþum	**maiþm*	*máiþms*	Pl. *mėiðmar*

Table 18 above shows three examples of words with an epenthetic vowel, where the Go. and the OIcel. form do not have a vowel between the final consonants. So, to determine whether a form has an epenthetic vowel and is etymologically monosyllabic or has an original vowel before the resonant and is therefore etymologically disyllabic, a North Germanic cognate of the OE word will serve as an indicator. Etymologically monosyllabic words are not subject to resolution. The epenthetic vowel is ignored in scansion, assuming that the poet used the pre-epenthetic metrical value of the monosyllabic word. If *æcer* were etymologically dissyllabic, it would represent a resolvable sequence and would therefore, be subject to resolution. It would occupy the metrical position S, Sx, s, or sx depending on its linguistic surroundings.[536] As an original monosyllable, it is always scanned as S or s.[537] Epenthetic vowels are underdotted in my examples.[538]

Pseudo-Epenthesis

The term is used by Terasawa (1994: 12, 19, 48) for an originally dissyllabic word reanalyzed as showing epenthesis in analogy to similar words. He suggests that the originally dissyllabic word *mægen*, for example, maybe reanalyzed as *mægẹn* with an epenthetic vowel in analogy to the monosyllabic word *þegn* and its parallel inflected

[533] Russom (1987a: 9f.).

[534] See discussions and examples in Holthausen (1934), Sievers (1885b: 480ff.), Sievers (1893: §§79.4b and 156.4), Lehmann (1968), and Fulk (1992: 66ff.).

[535] The examples of North Germanic cognates as indication of epenthesis are taken from Holthausen (1934). See also Fulk (1992: p. 72).

[536] S and s stand for a resolved sequence; Sx and sx for an unresolved sequence. See also Table 4 on page 14.

[537] See also "Resolution" on page 60.

[538] See Table 4 on page 14.

form *þegnes*. His argument is supported by Fulk's (1989: 134f. and 124) findings about effects on originally disyllabic stems through analogy to syncopated oblique cases, e.g. *ēþel* m./n.g.s. *ēþles* (Hall 1960), and also by the different metrical value between short-stemmed and long-stemmed parasited forms in scansion, the short-stemmed ones being usually scanned as monosyllables and the long-stemmed ones as both, monosyllables or disyllables (Fulk 1992: §§83ff., §95). The argument of reanalysis might also be supported by Luick (1964: §318), who claims that parasiting is frequent before nasals.[539]

Resolution

The metrical feature of resolution associates a syllabic sequence instead of one single long syllable with one stressed metrical position. The two levels of stress, primary stress S and secondary stress s, may be occupied by a long stressed syllable or by a resolvable sequence, i.e. a short stressed syllable followed by an additional syllable, long or short, as in *æþele* or *swutol*. They form a so-called resolvable sequence.[540] Note that certain resolvable sequences may also be subject to epenthesis or syncopation.[541]

The resolvable sequence and its implementation is subject to restrictions concerning the stress level of the metrical position it occupies, its placement in the verse, and the quantity of the vowel of the second syllable of the resolvable sequence. Resolution and its implementation is regulated by Kaluza's Law (Kaluza 1896: 120), which is based on the distinction between etymologically long and short inflectional endings.[542] Basically the law says first, that a resolvable sequence may remain unresolved if it is immediately preceded by a stressed syllable and if the second syllable is long; and second, that it must be resolved if both syllables are short.[543] Kaluza's law and the implementation of resolution has been treated in many publications on OE meter, since its first publication.[544] The theoretical implications are too complicated to be included here. A simplified explanation must suffice to clarify the problems involved in the comparison of affected verses in *Beowulf* and the *Riddles*. General rules on resolution and positional naturalness are taken from Russom (1987a: 44.ff.).

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[539] His results are based on manuscript readings, but born out by Fulk's metrical evidence (Fulk 1992: §85).

[540] See "Stress Assignment" on page 8. See also Sievers (1893: §9.1.), Bliss (1958: §34.), Russom (1987a: 44; 1995; 1998: 97), Hutcheson (1995: 68), and Suzuki (1996: 17, 171ff.).

[541] See "Epenthesis" on page 60 and "Syncopation" on page 60.

[542] In Kaluza's own words "Am Versende enthält ein aus zwei kurzen Silben bestehendes Wort zwei Hebungen, wenn demselben eine lange, starktonige Silbe unmittelbar vorhergeht; es wird aber nur für eine Hebung gerechnet, also die beiden kurzen Silben verschleift, wenn es auf eine schwächere Hebung oder auf eine Senkungssilbe folgt" (Kaluza 1896: 120). And: "Bei näherer Untersuchung ergibt es sich auch, dass in der älteren Dichtung, z.B. im Beowulf, überall da, wo ein derartiges Wort am Versschluss zwei Hebungen, bezw. zwei Glieder des Verses in sich aufnehmen muss, die zweite Silbe in der Regel eine in älterer Zeit betonte oder lange Flexionssilbe war . . .". (Kaluza 1909: §52, 58). In his first formulation, the word "Hebung" should probably be replaced by "Glied", defining the two short syllables as one stressed metrical position s or as an unresolved sequence with two metrical positions sx.

[543] Fulk (1992: 419-425) discusses long and short inflectional endings in detail. See also Suzuki (1996: 383f.) for a concise description of resolution and its implications.

[544] See Bliss (1958: §§34-40), Fulk (1992: 153ff.), Hutcheson (1995: 78ff.), and Suzuki (1996: 171ff.) for detailed discussions of resolution and Kaluza's Law.

His formal rules for resolution are:

(27) (a) A short syllable bearing primary stress normally undergoes resolution.
(b) A short syllable on an S position normally undergoes resolution.
(c) When more than one metrical position in a verse may contain a resolved sequence, resolution is obligatory on the first such position.

Rule (a) refers to the linguistic material and rule (b) to the metrical position. They often have the same effect, but there are cases where one rule is violated but not the other. If, for example, a short syllable with primary stress stands unresolved on the s position as in

Beo 35b *on bearm scipes* x/S^{A}sx C[545]
'in [the] bosom [of the] ship'

rule (a) is contravened, but rule (b) applies, since the primary stress is metrically subordinated in the word group mimicking a compound. For resolution on secondary positions, Russom (1987a: 45) claims that "[s]hort syllables with secondary stress may undergo resolution or may stand unresolved . . .". In a later publication (Russom 1995: 150-151) he elaborates his rules:

4 (a) Within the word, resolution is most natural under primary stress, less natural under subordinate stress, and forbidden under zero stress.

(b) Within the foot, resolution is most natural on an S position, less natural on an s position, and forbidden on an x position.

(c) Alliteration on the most prominent S position makes resolution less natural on a subordinate S or s position within the same metrical domain.

(d) Resolution of a short syllable is less natural when the following syllable is long and the resolved sequence would therefore be equivalent to an 'ultra long' closed syllable containing a long vowel (Kaluza's Law).

(e) On the most deeply subordinated s positions, both resolved sequences and ordinary long syllables are unnatural. Such s positions are most naturally occupied by a short stressed syllable (unresolved).

(f) When two or more naturalness constraints apply simultaneously, their effects are summed.

Russom's rules describe the most important features of resolvable sequences and the naturalness of their placement in the metrical positions of the verse. They provide the necessary guidelines for scansion in his framework. They are considered as stylistic preferences rather than hard and fast rules and will allow for "occasional anomaly" (Russom 1995: 154.).[546] For the evaluation and discussion of resolution and suspended resolution, the naturalness in Russom's terminology is narrowed to binding restrictions as they are formulated in Kaluza's Law in order to assess differences or similarities in the

[545] Sievers (1893: §9.2, §16.3) calls type C with suspended resolution "verkürzt". I adopt his term and call these types shortened C.
[546] See also Russom (2002a) for a detailed discussion of the Germanic syllable and resolution.

implementation of resolution between *Beowulf* and the *Riddles*. So, a resolvable sequence must be resolved, if it is not immediately preceded by a stressed syllable, whether the second syllable is long or short. If it is immediately preceded by a stressed syllable, it must be resolved if the syllable is short and may remain unresolved, only if the syllable is long. Too many exceptions to Kaluza's Law in types C and B suggest that the law does not apply here, since in types A1, A2a, 3Ab, Da, Dax, and E, the *Beowulf* poet observes the law with very few exceptions.[547]

Syncopation

The term is used to describe the phenomenon that the original short vowel in the unstressed open medial syllable is dropped after a long stem syllable. Examples are inflected forms of nouns, for instance, as *engel* with the genitive singular *engles* instead of *engeles* (Klaeber 1950: 275; Sievers 1885b: 459; Wright and Wright 1925: §221). According to Sievers, syncopation must occasionally be expected after short stem syllables. And here the clear distinction between syncopation and resolution is no longer possible, since the stressed short stem syllable and the following syllable form a resolvable sequence. The forms *ofestum* and *ofstum*, for example, basically have the same metrical value and occupy a primary position and an unstressed position Sx and Sx. Sievers (1885b: 462) suggests that the distribution of resolution on certain positions of individual types may allow for a possible choice between syncopation and resolution. Among others he cites the verse

Beo 164a	*Swā fela fyrẹna* 'Thus many [of] crimes'	x/S^{A}:s^{A}x	C

where the short medial vowel of *fyrẹna* should be syncopated, since resolution on this particular position is very unusual. Syncopated vowels are underdotted in my examples.[548] On the other hand, the short stressed syllable of the second constituent of the compound form in the example

Beo 267a	*Wē þurh holdne hige* 'We through friendly mind'	x:x/S^{A}x:s^{A}	B

is subject to resolution.[549]

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[547] Fulk (1992: §§174-175, especially footnote 12). See also Cable (1991: 19, 23, 25-26) on the Antepenultimate Syllable Rule; Fulk (1992: passim) on the Rule of the Coda and Kaluza's Law; Suzuki (1985; 1995a; 1995b), and Russom (2002a) on resolution, syllable structure, and mora counting.

[548] See Table 4 on page 14.

[549] See "Resolution" on page 60.

Truncation

The term is used in Terasawa's (1989) work to describe the phenomenon of clipping the ending of a noun to avoid a syllabic sequence that violates his first constraint, namely the sequence Sx-Sx representing the unrecorded compound **hilde-wiga*. The truncated form *hild-wiga* represented by the pattern S-Sx is an acceptable syllabic sequence often found in compound forms.

Appendix B: Error Analysis[550]

The analyses of the *Riddles* and of *Beowulf* are subject to statistical variations caused by the finite number of the number of tokens and its quasi-random nature, i.e. the poet's choice of verse type is not subject to any set rules or patterns. Therefore, the comparison of the two works includes an error analysis in order to decide whether discrepancies are due to an inherent difference of the works or is caused by mere statistical fluctuation.

The error analysis is based on the assumption that the statistical fluctuation of an ensemble (e.g. the number x of verses of a given type or criterion) is the square-root of this very number x. This means that the number x can vary by

$$\delta x = \pm\sqrt{x}$$

(δ stands for the error of...)

This error is included in the analysis taking into account the different size (sum) of the ensembles. It is calculated in the following way:
The percentage p and its error δp of the types or criteria is calculated as

$$p = 100 \cdot x / n$$

$$\delta p = 100 \cdot \sqrt{x + x^2/n} / n$$

where the normalization n is the total number of a given ensemble (type or criterion) as explained in the corresponding text to the tables. The error of the normalization is included in δp.

The analysis is based on the difference d including its error δd of the percentages of a given ensemble in the *Riddles* and in *Beowulf*

$$d = (p_{Rid} - p_{Beo})$$

$$\delta d = \sqrt{\delta p_{Rid}^2 + \delta p_{Beo}^2}$$

A negative result indicates lower percentages and a positive result higher percentages in the *Riddles*.

The significance is given by the difference d normalized on its error δd

$$s = d/\delta d$$

A significant difference of the percentages of the two works is assumed, if the significance s is equal or larger than 2 standard deviations. This means that the difference between the two values is significant with a probability of at least 95%. In other words, there is only a 5% or lesser probability that the difference is statistically insignificant.

[550] Private communication by Alex Zehnder.

The error calculation described above serves as the basis for a conservative interpretation of actual differences between resulting percentages. Since the groups of individual types or subtypes to be compared are often very small and the normalization on the small group already contains an error in itself, the calculated significance is often between 1 and 2 standard deviations, which corresponds to a significance between 70% and 95%. The interpretation of such cases is also included, since the probability increases with every calculated tendency observed in the same feature. If, for instance, there is a difference in the percentages of word groups in a foot pattern in two different types with a calculated significance of 1, the probability of a statistically significant result is 90%.

Appendix C: Tables

The statistical results for each type and its variant forms are illustrated in graphs by the plotted percentages of the evaluated variants. Each of these figures is represented in a corresponding table in order to illustrate on what total the calculations are normalized and the exact calculations for the percentages, the statistical error and significance. some of the tables include calculations that are not plotted in the graphs. The footnote in the captions refers to the corresponding figure or the location of the discussion.

Table 19: Totals of Verses in *Beowulf* and in the *Riddles*[551]

Totals	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
?Patterns	GT	175	94	2.7	0.2	3.5	0.4	1.7
noText	GT	13	228	0.2	0.1	9.4	0.6	14.1
Latin/Runes	GT	0	28	0.0	0.0	1.0	0.2	5.3
rdbl	GT	6189	2374	97.3	1.7	87.2	2.4	-3.4

Table 20: Sievers' Five Basic Types[552]

Sievers Type	Pattern	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A	Sx/Sx	2815	45.5	1.0	1297	54.6	1.9	4.3
B	(x)x/Sxs	1002	16.2	0.6	407	17.1	0.9	0.9
C	(x)x/Ssx	1112	18.0	0.6	425	17.9	0.9	-0.1
D	S(x)/Ssx | S(x)/Sxs	812	13.1	0.5	146	6.1	0.5	-9.7
E	Ssx/S	427	6.9	0.3	93	3.9	0.4	-5.5

Table 21: Twenty-Two Russom/Sievers Types[553]

R/S Types	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
3A	rdbl	77	44	1.2	0.1	1.9	0.3	1.9
3Ab	rdbl	17	4	0.3	0.1	0.2	0.1	-1.0
A1	rdbl	2033	997	32.8	0.8	42.0	1.6	5.1
A2a	rdbl	240	62	3.9	0.3	2.6	0.3	-3.0
A2ab	rdbl	30	9	0.5	0.1	0.4	0.1	-0.7
A2b	rdbl	106	32	1.7	0.2	1.3	0.2	-1.2
A3	rdbl	289	139	4.7	0.3	5.9	0.5	2.0
A3b	rdbl	23	10	0.4	0.1	0.4	0.1	0.3
B	rdbl	832	325	13.4	0.5	13.7	0.8	0.3
B2	rdbl	170	82	2.7	0.2	3.5	0.4	1.6
C	rdbl	1093	400	17.7	0.6	16.8	0.9	-0.8
C2	rdbl	19	25	0.3	0.1	1.1	0.2	3.3
Da	rdbl	367	54	5.9	0.3	2.3	0.3	-8.2
Da2	rdbl	102	20	1.6	0.2	0.8	0.2	-3.2
Da2x	rdbl	25	0	0.4	0.1	0.0	0.0	-5.0
Dax	rdbl	127	37	2.1	0.2	1.6	0.3	-1.6
Db	rdbl	140	22	2.3	0.2	0.9	0.2	-4.8
Db2	rdbl	18	7	0.3	0.1	0.3	0.1	0.0
Db2x	rdbl	1	0	0.0	0.0	0.0	0.0	-1.0
Dbx	rdbl	32	6	0.5	0.1	0.3	0.1	-1.9
E	rdbl	427	93	6.9	0.3	3.9	0.4	-5.5
hyp	rdbl	21	6	0.3	0.1	0.3	0.1	-0.7

[551] See Figure 1 on page 7.

[552] See Figure 3 on page 26.

[553] See Figure 4 on page 28.

Table 22: Percentages of A Types[554]

R/S Type	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A1	rdbl	2033	997	32.8	0.8	42.0	1.6	5.1
A2	rdbl	376	103	6.1	0.3	4.3	0.4	-3.2
A2a	rdbl	240	62	3.9	0.3	2.6	0.3	-3.0
A2b	rdbl	106	32	1.7	0.2	1.3	0.2	-1.2
A2ab	rdbl	30	9	0.5	0.1	0.4	0.1	-0.7
3A	rdbl	77	44	1.2	0.1	1.9	0.3	1.9
3Ab	rdbl	17	4	0.3	0.1	0.2	0.1	-1.0
A3	rdbl	289	139	4.7	0.3	5.9	0.5	2.0
A3b	rdbl	23	10	0.4	0.1	0.4	0.1	0.3

Table 23: Linguistic Material in A1[555]

A1 LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A1	readable	2033	997	32.8	0.8	42.0	1.6	5.1
core	A1	906	396	44.6	1.8	39.7	2.4	-1.6
ana	A1	41	19	2.0	0.3	1.9	0.4	-0.2
ana x	ana	38	19	92.7	20.9	100.0	32.4	0.2
ana xx	ana	3	0	7.3	4.4	0.0	0.0	-1.7
/(x*)	A1	639	412	31.4	1.4	41.3	2.4	3.5
/(x)	/(x*)	581	335	90.9	5.2	81.3	6.0	-1.2
/(xx)	/(x*)	52	71	8.1	1.2	17.2	2.2	3.6
/(xxx)	/(x*)	6	6	0.9	0.4	1.5	0.6	0.7
S:x/ no wv	A1	355	211	17.5	1.0	21.2	1.6	2.0
/S:x	A1	0	1	0.0	0.0	0.1	0.1	1.0
wv	A1	198	47	9.7	0.7	4.7	0.7	-5.0

Table 24: Distribution of A1 and its Variants to the A-Verse[556]

A1 A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A1 a	A1	1025	416	50.4	1.9	41.7	2.4	-2.8
core a	core	391	109	43.2	2.6	27.5	3	-3.9
ana a	ana	34	14	82.9	19.2	73.7	26	-0.3
/(x*) a	/(x*)	364	217	57	3.7	52.7	4.4	-0.7
S:x/ a	S:x/	193	95	54.2	4.8	45	5.6	-1.2
wv a	wv	125	15	63.1	7.2	31.9	9.5	-2.6

Table 25: Double Alliteration in the Variants of Type A1 A-Verses[557]

A1 DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A1 da	A1	610	269	30	1.4	27	1.9	-1.3
core da	core	130	42	14.3	1.3	10.6	1.7	-1.7
ana da	ana	31	12	75.6	18	63.2	23.3	-0.4
/(x*) da	/(x*)	339	169	53.1	3.6	41	3.7	-2.3
S:x/ da	S:x/	181	73	51	4.7	34.6	4.7	-2.5
wv da	wv	6	2	3	1.3	4.3	3.1	0.4

[554] See Figure 5 on page 29.
[555] See Figure 6 on page 30.
[556] See Figure 7 on page 32.
[557] See Figure 8 on page 33.

Table 26: Resolution in A1 and Distribution to the A-Verse[558]

A1 Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	A1	253	120	12.4	0.8	12	1.2	-0.3
S f2	A1	151	37	7.4	0.6	3.7	0.6	-4.2
A1 Res A-Verse								
S f1 a	S f1	135	46	53.4	5.7	38.3	6.6	-1.7
S f2 a	S f2	77	20	51	7.1	54.1	15	0.2

Table 27: Suspended Resolution in A1, Distribution to the A-Verse and Double Alliteration[559]

A1 SusRes	Normalizatio	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx f2	A1	5	16	0.2	0.1	1.6	0.4	3.2
Sx f2+ana	Sx f2	0	2	0	0	12.5	9.4	1.3
Sx f2+/(x*)	Sx f2	2	9	40	33.5	56.3	23.4	0.4
Sx f2+S:x/	Sx f2	1	5	20	21.9	31.3	16	0.4
A1 SusRes a								
Sx f2 a	Sx f2	3	11	60	43.8	68.8	26.9	0.2
A1 SusRes DbAllit								
Sx f2 da	Sx f2	0	9	0	0	56.3	23.4	2.4

Table 28: Percentages of A2 Types[560]

A2 Types	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2	rdbl	376	103	6.1	0.3	4.3	0.4	-3.2
A2a	A2	240	62	63.8	5.3	60.2	9.7	-0.3
A2ab	A2	30	9	8.0	1.5	8.7	3.0	0.2
A2b	A2	106	32	28.2	3.1	31.1	6.3	0.4

Table 29: Linguistic Material in A2a[561]

A2a LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2a	readable	240	62	3.9	0.3	2.6	0.3	-3.0
core	A2a	221	47	92.1	8.6	75.8	14.7	-1.0
/(x)	A2a	4	9	1.7	0.8	14.5	5.2	2.4
Ss	A2a	226	54	94.2	8.7	87.1	16.2	-0.4
S:s/	A2a	14	8	5.8	1.6	12.9	4.8	1.4
S:s/ + /(x)	A2a	0	3	0.0	0.0	4.8	2.9	1.7
wv	A2a	1	1	0.4	0.4	1.6	1.6	0.7

Table 30: Type A2a without Five *Riddle* Verses with Uncharacteristic Linguistic Material[562]

A2a - 5 Rid	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2a	rdbl	240	57	3.9	0.3	2.4	0.3	-3.6
core	A2a	221	47	92.1	8.6	75.8	14.7	-1.0
/(x)	A2a	4	6	1.7	0.8	9.7	4.1	1.9
S:s/	A2a	14	3	5.8	1.6	4.8	2.9	-0.3
wv	A2a	1	1	0.4	0.4	1.6	1.6	0.7

[558] See Figure 9 on page 35.

[559] See Figure 10 on page 37.

[560] See Figure 11 on page 39.

[561] See Figure 12 on page 40.

[562] See discussion in "Linguistic Material in Type A2a" on page 41.

Table 31: Distribution of A2a and its Variants to the A-Verse[563]

A2a A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2a a	A2a	176	34	73.3	7.3	54.8	11.7	-1.3
core a	core	163	25	73.8	7.6	53.2	13.2	-1.4
/(x) a	/(x)	4	5	100.0	70.7	55.6	31.0	-0.6
S:s/ a	S:s/	8	5	57.1	25.3	62.5	35.6	0.1
wv a	wv	1	1	100.0	141.4	100.0	141.4	0.0

Table 32: Double Alliteration in the Variants of Type A2a A-Verses[564]

DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2a da	A2a	160	24	66.7	6.8	38.7	9.3	-2.4
A2a ta	A2a	1	0	0.4	0.4	0.0	0.0	-1.0
core da	core	149	19	67.4	7.1	40.4	11.0	-2.1
/(x) da	/(x)	3	4	75.0	57.3	44.4	26.7	-0.5
S:s/ da	S:s/	8	2	57.1	25.3	25.0	19.8	-1.0
wv da	wv	1	0	100.0	141.4	0.0	0.0	-0.7
A2a da	A2a a	160	24	90.9	9.9	70.6	18.8	-1.0

Table 33: Resolution in A2a and Distribution to the A-Verse[565]

A2a Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	A2a	48	9	20.0	3.2	14.5	5.2	-0.9
S f2	A2a	28	4	11.7	2.3	6.5	3.3	-1.3
s f1	A2a	64	7	26.7	3.8	11.3	4.5	-2.6
A2a Res A-Verse								
S f1 a	S f1	37	7	77.1	16.9	77.8	39.2	0
S f2 a	S f2	26	2	92.9	25.3	50.0	43.3	-0.9
s f1 a	s f1	60	4	100.0	18.3	57.1	35.8	-1.1

Table 34: Suspended Resolution in A2a, Distribution to the A-Verse and Double Alliteration[566]

A2a SusRes	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx f2	A2a	65	14	27.1	3.8	22.6	6.7	-0.6
core	/Sx	60	14	92.3	16.5	100.0	37.8	0.2
S:s/	/Sx	5	1	7.7	3.6	7.1	7.4	-0.1
A2a SusRes A-V.								
Sx f2 a	/Sx	26	5	40	9.3	35.7	18.6	-0.2
A2a a	S*s/*Sx	176	30	73.3	7.3	48.4	10.8	-1.9
A2a - A2a Sx a	A2a	175	48	72.9	7.2	77.4	14.9	0.3
A2a SusRes DbA.								
Sx f2 da	/Sx	19	4	29.2	7.6	28.6	16.2	0.0
Sx f2 ta	/Sx	1	0	1.5	1.6	0	0	-1.0

The table contains three different calculations for the distribution to the a-verse: of the variant with suspended resolution Sx f2 a, in addition to the graph that of the A2a types A2a a, and the total number of A2a types minus the number of the variant A2a - A2a Sx a.

[563] See Figure 13 on page 44.
[564] See Figure 14 on page 45.
[565] See Figure 15 on page 46.
[566] See Figure 16 on page 47.

Table 35: Distribution of Long and Short Endings in A2a with Suspended Resolution[567]

A2a SusResEnd	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx f2	A2a	65	14	27.1	3.8	22.6	6.7	-0.6
Sx f2 long	Sx f2	64	13	98.5	17.3	92.9	35.8	-0.1
Sx f2 short Suz	Sx f2	1	1	1.5	1.6	7.1	7.4	0.7
Sx f2 long	Sx f2	59	11	90.8	16.3	78.6	31.7	-0.3
Sx f2 short Fulk	Sx f2	6	3	9.2	3.9	21.4	13.6	0.9

Table 36: Linguistic Material in A2b[568]

A2b LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2b	rdbl	106	32	1.7	0.2	1.3	0.2	-1.2
core	A2b	33	8	31.1	6.2	25	9.9	-0.5
ana	A2b	5	0	4.7	2.2	0	0	-2.2
/(x*)	A2b	31	11	29.2	6	34.4	12	0.4
/(x)	/(x*)	21	6	67.7	19.1	54.5	27.7	-0.4
/(xx)	/(x*)	6	5	19.4	8.6	45.5	24.5	1
/(xxx)	/(x*)	3	0	9.7	5.9	0	0	-1.7
/(xxxxx)	/(x*)	1	0	3.2	3.3	0	0	-1
Sx/	A2b	61	17	57.5	9.2	53.1	15.9	-0.2
S:x/	A2b	45	15	42.5	7.6	46.9	14.7	0.3
Ss	A2b	101	26	95.3	13.2	81.3	21.5	-0.6
/S:s	A2b	5	6	4.7	2.2	18.8	8.3	1.6

Table 37: Distribution of A2b and its Variants to the A-Verse and Double Alliteration[569]

A2b A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2b a	A2b	98	26	92.5	13.0	81.3	21.5	-0.4
core a	core	28	5	84.8	21.8	71.4	41.8	-0.3
ana a	ana	5	0	100.0	63.2	0.0	0.0	-1.6
/(x*) a	/(x*)	28	11	90.3	23.5	100.0	42.6	0.2
S:x/ a	S:x/	45	13	100.0	21.1	86.7	32.8	-0.3
/S:s a	/S:s	4	4	80.0	53.7	66.7	43.0	-0.2
A2b DbAllit								
A2b da	A2b	94	23	88.7	12.6	71.9	19.6	-0.7
core da	core	24	3	72.7	19.5	42.9	29.6	-0.8
ana da	ana	5	0	100.0	63.2	0.0	0.0	-1.6
/(x*) da	/(x*)	28	11	90.3	23.5	100.0	42.6	0.2
S:x/ da	S:x/	45	13	100.0	21.1	86.7	32.8	-0.3
/S:s da	/S:s	4	4	80.0	53.7	66.7	43.0	-0.2

Table 38: Resolution in A2b and Distribution to the A-Verse[570]

A2b Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	A2b	18	2	17.0	4.3	6.3	4.6	-1.7
S f2	A2b	22	2	20.8	4.9	6.3	4.6	-2.2
s f2	A2b	0	1	0.0	0.0	3.1	3.2	1.0
A2b Res A-Verse								
S f1 a	S f1	15	2	83.3	29.1	100.0	100.0	0.2
S f2 a	S f2	22	1	100.0	30.2	50.0	61.2	-0.7

[567] See Figure 17 on page 49.
[568] See Figure 18 on page 50.
[569] See Figure 19 on page 51.
[570] See Figure 20 on page 52.

Table 39: Linguistic Material in A2ab, Distribution to the A-Verse and Double Alliteration[571]

A2ab LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A2ab	rdbl	30	9	0.5	0.1	0.4	0.1	-0.7
core	A2ab	20	7	66.7	19.2	77.8	39.2	0.3
/(x)	A2ab	9	1	30.0	11.4	11.1	11.7	-1.2
/S:s	A2ab	1	1	3.3	3.4	11.1	11.7	0.6
A2ab A-Verse								
A2ab a	A2ab	28	9	93.3	24.5	100.0	47.1	0.1
core a	core	19	7	95.0	30.4	100.0	53.5	0.1
/(x) a	/(x)	8	1	88.9	43.2	100.0	141.4	0.1
/S:s a	/S:s	1	1	100.0	141.4	100.0	141.4	0.0
A2ab DbAllit								
A2ab da	A2ab	27	7	90.0	23.9	77.8	39.2	-0.3
core da	core	18	6	90.0	29.2	85.7	47.7	-0.1
/(x) da	/(x)	8	1	88.9	43.2	100.0	141.4	0.1
/S:s da	/S:s	1	0	100.0	141.4	0.0	0.0	-0.7

Table 40: Resolution in A2ab and Distribution to the A-Verse[572]

A2ab Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	A2ab	7.000	1.000	23.300	9.800	11.100	11.700	-
S f2	A2ab	4.000	3.000	13.300	7.100	33.300	22.200	0.900
s f1 short	A2ab	6.000	1.000	20.000	8.900	11.100	11.700	-
s f2	A2ab	0	0	0.0	0.0	0.0	0.0	0.0
A2ab Res A-V.								
S f1 a	S f1	7.000	1.000	100.000	53.500	100.000	141.400	0.000
S f2 a	S f2	4.000	3.000	100.000	70.700	100.000	81.600	0.000
s f1 short a	s f1 short	6.000	1.000	100.000	57.700	100.000	141.400	0.000
s f2 a	s f2	0	0	0.0	0.0	0.0	0.0	0.0

Table 41: Linguistic Material in 3A, Distribution to the A-Verse and Double Alliteration[573]

3A LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
3A	rdbl	77	44	1.2	0.1	1.9	0.3	1.9
core	3A	7	6	9.1	3.6	13.6	5.9	0.7
ana	3A	1	1	1.3	1.3	2.3	2.3	0.4
*S*x*x/	3A	69	36	89.6	14.9	81.8	18.4	-0.3
S:xx/	3A	67	33	87.0	14.5	75.0	17.3	-0.5
/(x*)	3A	4	7	5.2	2.7	15.9	6.5	1.5
wv	3A	2	0	2.6	1.9	0.0	0.0	-1.4
3A A-Verse								
3A a	3A	55	26	71.4	12.6	59.1	14.6	-0.6
core a	core	4	2	57.1	35.8	33.3	27.2	-0.5
ana a	ana	1	1	100.0	141.4	100.0	141.4	0.0
S:xx/ a	S:xx/	49	20	73.1	13.7	60.6	17.2	-0.6
/(x*) a	/(x*)	2	3	50.0	43.3	42.9	29.6	-0.1
3A DbAllit								
3A da	3A	54	21	70.1	12.4	47.7	12.7	-1.3
core da	core	4	2	57.1	35.8	33.3	27.2	-0.5
ana da	ana	1	1	100.0	141.4	100.0	141.4	0.0
S:xx/ da	S:xx/	29	17	43.3	9.6	51.5	15.4	0.5
/(x*) da	/(x*)	2	2	50.0	43.3	28.6	22.9	0.0

[571] See Figure 21 on page 53.

[572] See Figure 23 on page 55.

[573] See Figure 24 on page 56 and Figure 25 on page 57.

Table 42: Resolution in 3A, Distribution to the A-Verse and Suspended Resolution[574]

3A Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	3A	10.000	16.000	13.000	4.400	36.400	10.600	2.000
S f2	3A	6.000	0.000	7.800	3.300	0.000	0.000	-
3A Res A-Verse								
S f1 a	S f1	9.000	11.000	90.000	41.400	68.800	26.900	-
S f2 a	S f2	5.000	0.000	83.300	50.500	0.000	0.000	-
3A SusRes								
Sx f2	3A	0	1	0.0	0.0	2.3	2.3	1.0
Sx f2 long	Sx f2	0	1	0.0	0.0	100.0	141.4	0.7

Table 43: Linguistic Material in 3Ab, Distribution to the A-Verse and Double Alliteration[575]

3Ab LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
3Ab	rdbl	17	3	0.3	0.1	0.1	0.1	1.5
core	S*xx/Ss	9	3	52.9	21.8	75.0	57.3	0.4
S:xx/	S*xx/Ss	8	0	47.1	20.2	0.0	0.0	2.3
3Ab A-Verse								
3Ab a	S*xx/Ss	17	3	100.0	34.3	100.0	81.6	0.0
core a	Sxx/Ss no wv	9	3	100.0	47.1	100.0	81.6	0.0
S:xx/ a	S:xx/	8	0	100.0	50.0	0.0	0.0	2.0
3Ab DbAllit								
3Ab da	3Ab	17	3	100.0	34.3	100.0	81.6	0.0
core da	core	9	3	100.0	47.1	100.0	81.6	0.0
S:xx/ da	S:xx/	8	0	100.0	50.0	0.0	0.0	-2.0

Table 44: Resolution in 3Ab and Distribution to the A-Verse[576]

3Ab Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	3Ab	1	0	5.9	6.1	0.0	0.0	1.0
S f2	3Ab	1	1	5.9	6.1	25.0	28.0	0.7
s f2	3Ab	2	1	11.8	8.8	25.0	28.0	0.5
3Ab Res A-Verse								
S f1 a	S f1	1	0	100.0	141.4	0.0	0.0	-0.7
Sf2 a	S f2	1	1	100.0	141.4	100.0	141.4	0.0
s f2 a	s f2	2	1	100.0	100.0	100.0	141.4	0.0

Table 45: Linguistic Material in A3[577]

A3 LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A3	rdbl	289	139	4.7	0.3	5.9	0.5	2.0
core	A3	9	14	3.1	1.1	10.1	2.8	2.3
xx/Sx	core	1	3	11.1	11.7	21.4	13.6	0.6
x:x/Sx	A3	8	11	88.9	43.2	78.6	31.7	-0.2
strg	A3	280	125	96.9	8.1	89.9	11.1	-0.5
*xx/	strg	37	33	12.8	2.2	23.7	4.6	2.1
*x:x/	strg	214	86	74.0	6.7	61.9	8.5	-1.1
*xx:x/	strg	38	20	13.1	2.3	14.4	3.4	0.3

[574] See Figure 26 on page 57.

[575] See Figure 27 on page 59.

[576] See comments on resolution in Type 3Ab on page 60.

[577] See Figure 28 on page 60.

Table 46: Distribution of A3 and its Variants to the A- and the B-Verse[578]

A3 A-B-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A3 a	A3	289	130	100.0	8.3	93.5	11.4	-0.5
A3 b	A3	0	9	0.0	0.0	6.5	2.2	2.9
core a	core	9	12	100.0	47.1	85.7	33.7	-0.2
core xx/ a	core xx/	1	2	100.0	141.4	66.7	60.9	-0.2
core x:x/ a	core x:x/	8	10	100.0	50.0	90.9	39.7	-0.1
strg a	strg	280	118	100.0	8.5	94.4	12.1	-0.4

Table 47: Resolution in A3, Suspended Resolution and Distribution to the A-Verse[579]

A3 Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S	A3	23	9	8.0	1.7	6.5	2.2	-0.5
S + S ?	A3	25	9	8.7	1.8	6.5	2.2	-0.8
A3 Res A-Verse								
S a	S f2	23	7	100.0	29.5	77.8	39.2	-0.5
S + S ? a	S f2	25	7	100.0	28.3	77.8	39.2	-0.5
A3 SusRes								
Sx	A3	6	5	2.1	0.9	3.6	1.6	0.8
A3 SusRes A-V.								
Sx a	Sx f2	6	5	100.0	57.7	100.0	63.2	0.0
A3 SusRes Long								
Sx long	Sx f2	6	4	100.0	57.7	80.0	53.7	-0.3

The last row shows the calculation for the long and short endings of the unresolved sequence in the second foot. The calculation is not included in Figure 30 on page 63.

Table 48: Linguistic Material in A3b and Distribution to the A-Verse[580]

A3bLingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A3b	rdbl	23	10	0.4	0.1	0.4	0.1	0.3
core x:x	A3b	0	3	0.0	0.0	30.0	19.7	1.5
strg	A3b	23	7	100.0	29.5	70.0	34.5	-0.7
strg x:x	A3b	12	4	52.2	18.6	40.0	23.7	-0.4
strg xx	A3b	11	3	47.8	17.5	30.0	19.7	-0.7
(x)xx/Ss	strg	7	4	30.4	13.1	57.1	35.8	0.7
(xx)xx/Ss	strg	15	2	65.2	21.6	28.6	22.9	-1.2
(xxx)xx/Ss	strg	0	1	0.0	0.0	14.3	15.3	0.9
(xxxx)xx/Ss	strg	1	0	4.3	4.4	0.0	0.0	-1.0
A3b A-Verse								
A3b a	A3b	23	10	100.0	29.5	100.0	44.7	0.0

Table 49: Resolution in A3b and Distribution to the A-Verse[581]

A3b Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f2	A3b	6	1	26.1	12.0	10.0	10.5	-1.0
S f2 a	S f2	6	1	100.0	57.7	100.0	141.4	0.0

[578] See Figure 29 on page 60.
[579] See Figure 30 on page 60.
[580] See Figure 31 on page 60.
[581] See comments on resolution in Type A3b on page 60.

Table 50: The Light Foot in B[582]

B Core	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
B	rdbl	832	325	13.4	0.5	13.7	0.8	0.3
core x+strg x	B	647	259	77.8	4.1	79.7	6.6	0.2
core	B	222	117	26.7	2.0	36.0	3.9	2.1
core x	B	82	65	36.9	4.8	55.6	8.6	1.9
core xx	B	140	52	63.1	6.8	44.4	7.4	-1.9
B String								
strg	B	610	208	73.3	3.9	64.0	5.7	-1.4
strg x	strg	565	194	67.9	3.7	59.7	5.4	-1.3
strg xx	strg	45	14	5.4	0.8	4.3	1.2	-0.8
(x)x/	strg x	380	142	67.3	4.5	73.2	8.1	0.6
(xx)x/	strg x	164	48	29.0	2.6	24.7	4.0	-0.9
(xxx)x/	strg x	20	3	3.5	0.8	1.5	0.9	-1.7
(xxxx)x/	strg x	1	1	0.2	0.2	0.5	0.5	0.6
(x)xx/	strg xx	38	14	84.4	18.6	100.0	37.8	0.4
(xx)xx/	strg xx	7	0	15.6	6.3	0.0	0.0	-2.5

Table 51: Word Groups in B[583]

B WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
/Sxs	B	70	20	8.4	1.0	6.2	1.4	-1.3
/S*x*s	B	762	305	91.6	4.6	93.8	7.5	0.3
/Sx:s	/S*s*x	594	271	78.0	4.3	88.9	7.4	1.3
/S:x-s	/S*s*x	122	19	16.0	1.6	6.2	1.5	-4.6
/S:x:s	/S*s*x	46	15	6.0	0.9	4.9	1.3	-0.7
/S:x-s+/S:x:s	/S*s*x	168	34	22.0	1.9	11.1	2.0	-4.0

Table 52: Distribution of B and its Variants to the A-Verse[584]

B A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
B a	B	233	126	28.0	2.1	38.8	4.1	2.4
core a	core	91	54	41.0	5.1	46.2	7.6	0.6
strg a	strg	142	72	23.3	2.2	34.6	4.7	2.2
strg x a	strg x	133	68	23.5	2.3	35.1	4.9	2.1
strg xx a	strg xx	9	4	20.0	7.3	28.6	16.2	0.5
/S*x*s a	/S*x*s	192	111	25.2	2.0	36.4	4.0	2.5
/Sx:s a	/Sx:s	161	97	27.1	2.4	35.8	4.2	1.8
/S:x-s a	/S:x-s	17	7	14.3	3.7	36.8	16.3	1.4
/S:x:s a	/S:x:s	13	7	28.3	8.9	46.7	21.4	0.8
/Sxs a	/Sxs	41	20	58.6	11.5	100.0	31.6	1.2
/S:x-s A-B Verse								
Beo a : b	Beo /S:x-s	17	102	14.3	3.7	85.7	11.6	5.9
Rid a : b	Rid /S:x-s	7	12	36.8	16.3	63.2	23.3	0.9

[582] See Figure 32 on page 60.
[583] See Figure 33 on page 60.
[584] See Figure 34 on page 60.

Table 53: Double Alliteration in the Variants of Type B A-Verses[585]

B DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
B da	B	73	32	8.8	1.1	9.8	1.8	0.5
core da	core	33	14	14.9	2.8	12.0	3.4	-0.7
/S*x*s da	/S*x*s	71	31	9.3	1.2	10.2	1.9	0.4
/Sx:s da	/Sx:s	59	27	9.9	1.4	10.0	2.0	0.0
/S:x-s da	/S:x-s	5	1	4.1	1.9	5.3	5.4	0.2
/S:x:s da	/S:x:s	7	3	15.2	6.2	20.0	12.6	0.3

Table 54: Resolution in B, Distribution to the A-Verse and Suspended Resolution[586]

B Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f2	B	73	15	8.8	1.1	4.6	1.2	-2.6
S f2 - pr	B	59	15	7.1	1.0	4.6	1.2	-1.6
s f2	B	49	25	5.9	0.9	7.7	1.6	1.0
B Res A-Verse								
S f2 a	S f2	21	6	28.8	7.1	40.0	19.3	0.5
s f2 a	s f2	23	12	46.9	11.9	48.0	16.9	0.1
B SusRes								
Sx f2	B	0	1	0.0	0.0	0.3	0.3	1.0
Sx f2 long	Sx f2	0	1	0.0	0.0	100.0	141.4	0.7

Table 55: The Light Foot in B2[587]

B2 LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
B2	rdbl	170	82	2.7	0.2	3.5	0.4	1.6
core x+strg x	B2	137	66	80.6	9.3	80.5	13.3	0.0
core	B3	36	22	21.2	3.9	26.8	6.4	0.8
strg	B2	134	60	78.8	9.1	73.2	12.4	-0.4
strg x	strg	123	55	72.4	8.6	67.1	11.7	-0.4
(x)x/	strg x	67	44	54.5	8.3	80.0	16.2	1.4
(xx)x/	strg x	40	8	32.5	5.9	14.5	5.5	-2.2
(xxx)x/	strg x	9	3	7.3	2.5	5.5	3.2	-0.5
(xxxx)x/	strg x	7	0	5.7	2.2	0.0	0.0	-2.6
strg xx	strg	11	5	8.2	2.6	8.3	3.9	0.0
(x)xx/	strg xx	8	3	72.7	33.8	60.0	43.8	-0.2
(xx)xx/	strg xx	3	2	27.3	17.8	40.0	33.5	0.3

Table 56: Word Groups in B2[588]

B2 WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
/Sxxs	B2	1	0	0.6	0.6	0.0	0.0	-1.0
/S*x*x*s	B2	169	82	99.4	10.8	100.0	15.6	0.0
/Sx:x-s	/S*x*x*s	120	31	71.0	8.5	37.8	8.0	-2.9
/Sx:x:s	/S*x*x*s	30	36	17.8	3.5	43.9	8.8	2.8
x-s+x:s	/S*x*x*s	150	67	88.8	10.0	81.7	13.5	-0.4
/S:x:x:s	/S*x*x*s	6	1	3.6	1.5	1.2	1.2	-1.2
/Sxx:s	/S*x*x*s	6	12	3.6	1.5	14.6	4.5	2.3
/S:x:x-s	/S*x*x*s	3	0	1.8	1.0	0.0	0.0	-1.7
/S:xx:s	/S*x*x*s	3	2	1.8	1.0	2.4	1.7	0.3
/S:xx-s	/S*x*x*s	1	0	0.6	0.6	0.0	0.0	-1.0

[585] See Figure 35 on page 60.

[586] See Figure 36 on page 60 and comments on suspended resolution in type B in Rid 44.1b on page 60.

[587] See Figure 37 on page 60.

[588] See Figure 38 on page 60.

Table 57: Distribution of B2 and its Variants to the A-Verse[589]

B2 A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
B2 a	B2	55	34	32.4	5.0	41.5	8.5	0.9
core a	core	25	13	69.4	18.1	59.1	20.7	-0.4
strg a	strg	30	21	22.4	4.5	35.0	8.9	1.3
/Sx:x-s a	/Sx:x-s	44	14	36.7	6.5	45.2	14.5	0.5
/Sx:x:s a	/Sx:x:s	5	7	16.7	8.1	19.4	8.0	0.2
/S:x:x:s a	/S:x:x:s	2	0	33.3	27.2	0.0	0.0	-1.2
/Sxx:s a	/Sxx:s	0	11	0.0	0.0	91.7	38.3	2.4
/S:x:x-s a	/S:x:x-s	2	0	66.7	60.9	0.0	0.0	-1.1
/S:xx:s a	/S:xx:s	2	2	66.7	60.9	100.0	100.0	0.3

Table 58: Double Alliteration in the Variants of Type B2 A-Verses[590]

B2 DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
B da	B2	19	13	11.2	2.7	15.9	4.7	0.9
core da	core	8	3	22.2	8.7	13.6	8.4	-0.7
core x da	core x	3	1	21.4	13.6	9.1	9.5	-0.7
core xx da	core xx	5	2	22.7	11.3	18.2	14.0	-0.3
strg da	strg	11	10	8.2	2.6	16.7	5.7	1.4
strg x da	strg x	11	10	8.2	2.6	16.7	5.7	1.4

Table 59: Resolution in B2 and Distribution to the A-Verse[591]

B2 Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S	B2	13	1	7.6	2.2	1.2	1.2	-2.6
S - pr	B2	10	1	5.9	1.9	1.2	1.2	-2.1
s	B2	9	3	5.3	1.8	3.7	2.2	-0.6
B2 Res A-Verse								
S a	S f2	4	1	30.8	17.6	100.0	141.4	0.5
s a	s f2	8	3	88.9	43.2	100.0	81.6	0.1

Table 60: The Light Foot in C[592]

C Core	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
C	rdbl	1093	400	17.7	0.6	16.8	0.9	-0.8
core x+strg x	C	858	321	78.5	3.6	80.3	6.0	0.3
core	C	440	150	40.3	2.3	37.5	3.6	-0.6
core x	core	261	108	59.3	4.6	72.0	9.1	1.2
core xx	core	179	42	40.7	3.6	28.0	4.9	-2.1
C String								
strg	C	653	250	59.7	3.0	62.5	5.0	0.5
strg x	strg	597	213	91.4	5.2	85.2	7.9	-0.7
(x)x/	strg x	429	163	71.9	4.5	76.5	8.0	0.5
(xx)x/	strg x	139	45	23.3	2.2	21.1	3.5	-0.5
(xxx)x/	strg x	27	5	4.5	0.9	2.3	1.1	-1.6
(xxxx)x/	strg x	2	0	0.3	0.2	0.0	0.0	-1.4
strg xx	strg	56	37	8.6	1.2	14.8	2.6	2.2
(x)xx/	strg xx	37	34	66.1	14.0	91.9	21.8	1.0
(xx)xx/	strg xx	18	2	32.1	8.7	5.4	3.9	-2.8
(xxx)xx/	strg xx	1	1	1.8	1.8	2.7	2.7	0.3

[589] See Figure 39 on page 60.
[590] See Figure 40 on page 60.
[591] See Figure 41 on page 60.
[592] See Figure 42 on page 60.

Table 61: Word Groups in C[593]

C WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
/Ssx	C	567	135	51.9	2.7	33.8	3.4	-4.2
/Ssx cpd	/Ssx	488	95	86.1	5.3	70.4	9.4	-1.5
/Ssx lm	/Ssx	79	40	13.9	1.7	29.6	5.3	2.8
/S*s*x	C	526	265	48.1	2.6	66.3	5.2	3.1
/Ssx lm+/S*s*x	C	605	305	55.4	2.8	76.3	5.8	3.2
/S:sx	/S*s*x	524	265	99.6	6.1	100.0	8.7	0.0
/S:s:x	/S*s*x	2	0	0.4	0.3	0.0	0.0	-1.4

Table 62: Distribution of C and its Variants to the A-Verse[594]

C A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
C a	C	502	182	45.9	2.5	45.5	4.1	-0.1
core a	core	198	77	45.0	3.9	51.3	7.2	0.8
core x a	core x	89	56	34.1	4.2	54.9	9.1	2.1
core xx a	core xx	109	21	60.9	7.4	50.0	13.4	-0.7
strg a	strg	304	105	46.6	3.2	42.0	4.9	-0.8
strg x a	strg x	279	92	46.7	3.4	43.2	5.4	-0.6
strg xx a	strg xx	25	13	44.6	10.7	35.1	11.3	-0.6
/Ssx a	/Ssx	422	101	74.4	4.8	74.8	9.8	0.0
/Ssx cpd a	/Ssx cpd	360	66	73.8	5.1	69.5	11.1	-0.4
/Ssx lm a	/Ssx lm	62	35	78.5	13.3	87.5	20.3	0.4
/S*s*x a	*/S*s*x	80	81	15.2	1.8	30.6	3.9	3.6

Table 63: Monosyllabic and Disyllabic Cores and Strings in the A-Verse in C[595]

C Core a	Core x a	Core xx a	% x	Err. x	% xx	Err. xx	Sign.
Rid core a	56	21	54.9	9.1	50.0	13.4	-0.3
Beo core a	89	109	34.1	4.2	60.9	7.4	3.2
C String a	**str x a**	**str xx a**	**% x**	**Err. x**	**% xx**	**Err. xx**	**Sign.**
Rid str. x a	92	13	43.2	5.4	35.1	11.3	-0.6
Beo str. x a	279	25	46.7	3.4	44.6	10.7	-0.2
C /S*s*x a	**/S*s*x a**	**/S*s*x b**	**% a**	**Err. a**	**% b**	**Err. b**	**Sign.**
Rid /S*s*x	81	184	30.6	3.9	69.4	6.7	5.0
Beo /S*s*x	80	446	15.2	1.8	84.8	5.5	12.1

Table 64: Double Alliteration in the Variants of Type C A-Verses[596]

C DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
C da	C	51	35	4.7	0.7	8.8	1.5	2.4
C core da								
core da	core	36	19	8.2	1.4	12.7	3.1	1.3
core x da	core x	23	16	8.8	1.9	15.7	4.2	1.5
core xx da	core xx	13	3	7.3	2.1	7.1	4.3	0.0
C strg da								
strg da	strg	15	16	2.3	0.6	6.4	1.7	2.3
(x)x/ da	(x)x/	11	15	2.6	0.8	9.2	2.5	2.5
(xx)x/ da	(xx)x/	1	0	0.7	0.7	0.0	0.0	-1.0
(x)xx/ da	(x)xx/	2	1	5.4	3.9	2.9	3.0	-0.5
(xx)xx/ da	(xx)xx/	1	0	5.6	5.7	0.0	0.0	-1.0

continued

[593] See Figure 43 on page 60.

[594] See Figure 44 on page 60.

[595] See discussion of proportions in "Distribution of Type C to the A-Verse" on page 60f.

[596] See Figure 45 on page 60.

C DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
C wg da								
/Ssx da	/Ssx	15	3	2.6	0.7	2.2	1.3	-0.3
/S*s*x da	/S*s*x	36	32	6.8	1.2	12.1	2.3	2.1

Table 65: Suspended Resolution in C, Resolution and Distribution to the A-Verse[597]

C SusRes	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
sx	C	482	157	44.1	2.4	39.3	3.7	-1.1
C Res								
S	C	225	105	20.6	1.5	26.3	2.9	1.7
s	C	12	4	1.1	0.3	1.0	0.5	-0.2
S+s	s	10	2	83.3	35.7	50.0	43.3	-0.6
S+sx	sx	1	1	0.2	0.2	0.6	0.6	0.6
C Res A-Verse								
S a	S	81	32	36.0	4.7	30.5	6.2	-0.7
s a	s	2	3	16.7	12.7	75.0	57.3	1.0
C SusRes A-V.								
sx a	sx	210	69	43.6	3.6	43.9	6.3	0.1

Table 66: Distribution of C with Resolvable Sequences to the A-verse[598]

C Res A-B-Verse	Normalization	a	b	% a	Err. a	% b	Err. b	Sign.
S Beo	S Beo	81	144	36.0	4.7	64.0	6.8	3.4
S Rid	S Rid	32	73	30.5	6.2	69.5	10.6	3.2
s Beo	s Beo	2	10	16.7	12.7	83.3	35.7	1.8
s Rid	s Rid	3	1	75.0	57.3	25.0	28.0	-0.8
C SusRes A-B-V.								
sx a	sx Beo	210	272	43.6	3.6	56.4	4.28	2.3
sx b	sx Rid	69	88	43.9	6.3	56.1	7.5	1.2

Table 67: Linguistic Material in C2 and Distribution to the A-Verse[599]

C2 Core	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
C2	rdbl	19	25	0.3	0.1	1.1	0.2	3.3
core	C2	5	17	26.3	13.2	68.0	21.4	1.7
core x	core	3	14	60.0	43.8	82.4	29.7	0.4
core xx	core	2	3	40.0	33.5	17.6	11.1	-0.6
C2 String								
strg	C2	14	8	73.7	26.0	32.0	13.0	-1.4
strg x	strg	14	8	100.0	37.8	100.0	50.0	0.0
(x)x/	strg x	10	7	71.4	29.6	87.5	45.3	0.3
(xx)x/	strg x	3	1	21.4	13.6	12.5	13.3	-0.5
(xxx)x/	strg x	1	0	7.1	7.4	0.0	0.0	-1.0
/Sxx	C2	19	25	100.0	32.4	100.0	28.3	0.0
wv	C2	2	2	10.5	7.8	8.0	5.9	-0.3
C2 A-Verse								
C2 a	C2	14	19	73.7	26.0	76.0	23.1	0.1
strg a	strg	10	6	71.4	29.6	75.0	40.5	0.1

[597] See Figure 46 on page 60.

[598] See discussion in "Suspended Resolution and Resolution in Type C" on page 60.

[599] See Figure 47 on page 60.

Table 68: Percentages of D Types[600]

D Types	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
D	rdbl	812	146	13.1	0.5	6.1	0.5	-9.7
Da	D	367	54	45.2	2.8	37.0	5.9	-1.3
Dax	D	127	37	15.6	1.5	25.3	4.7	2.0
Db	D	140	22	17.2	1.6	15.1	3.4	-0.6
Da2	D	102	20	12.6	1.3	13.7	3.3	0.3
Db2	D	18	7	2.2	0.5	4.8	1.9	1.3
Dbx	D	32	6	3.9	0.7	4.1	1.7	0.1
Da2x	D	25	0	3.1	0.6	0.0	0.0	-4.9
Db2x	D	1	0	0.1	0.1	0.0	0.0	-1.0

Table 69: Linguistic Material in Da[601]

Da LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Da	rdbl	367	54	5.9	0.3	2.3	0.3	-8.2
core	Da	235	36	64.0	5.3	66.7	14.3	0.2
ana	Da	14	0	3.8	1.0	0.0	0.0	-3.7
/Ssx no wv	Da	262	37	71.4	5.8	68.5	14.6	-0.2
/Ssx	Da	353	54	96.2	7.2	100.0	19.2	0.2
/Ssx cpd	/Ssx	192	24	54.4	4.9	44.4	10.9	-0.8
/Ssx lm	/Ssx	161	30	45.6	4.3	55.6	12.7	0.7
/S:sx	Da	14	0	3.8	1.0	0.0	0.0	-3.7
/(x*)	Da	22	1	6.0	1.3	1.9	1.9	-1.8
/(x)	/(x*)	18	0	81.8	26.0	0.0	0.0	-3.1
/(xx)	/(x*)	4	1	18.2	9.9	100.0	141.4	0.6
wv	Da	91	17	24.8	2.9	31.5	8.8	0.7

Table 70: Distribution of Da and its Variants to the A-Verse and Double Alliteration[602]

Da A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Da a	Da	187	42	51.0	4.6	77.8	16.0	1.6
core a	core	111	32	47.2	5.4	88.9	21.6	1.9
/Ssx a	/Ssx	135	42	38.2	3.9	77.8	16.0	2.4
/(x*) a	/(x*)	18	0	81.8	26.0	0.0	0.0	-3.1
wv a	wv	48	10	52.7	9.4	58.8	23.4	0.2
Da DbAllit								
Da da	Da	104	31	28.3	3.1	57.4	12.9	2.2
core da	core	72	29	30.6	4.1	80.6	20.1	2.4
/Ssx da	/Ssx	94	31	26.6	3.1	57.4	12.9	2.3
/(x*) da	/(x*)	16	0	72.7	23.9	0.0	0.0	-3.0
wv da	wv	6	2	6.6	2.8	11.8	8.8	0.6

Table 71: Resolution in Da, Suspended Resolution and Distribution to the A-Verse[603]

Da Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	Da	151	14	41.1	4.0	25.9	7.8	-1.7
S f2	Da	27	4	7.4	1.5	7.4	3.8	0.0
S f1+S f2	Da	7	1	1.9	0.7	1.9	1.9	0.0

continued

[600] See Figure 48 on page 60.
[601] See Figure 49 on page 60.
[602] See Figure 50 on page 60.
[603] See Figure 51 on page 60.

Da SusRes	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx f2	Da	12	5	3.3	1.0	9.3	4.3	1.4
sx f2	Da	92	12	25.1	2.9	22.2	7.1	-0.4
s f2	Da	0	1	0.0	0.0	1.9	1.9	1.0
Da Res A-Verse								
S f1 a	S f1	74	13	49.3	7.0	92.9	35.8	1.2
S f2 a	S f2	19	4	70.4	21.1	100.0	70.7	0.4
s f2 a	s f2	0	1	0.0	0.0	100.0	141.4	0.7
Da SusRes A-V.								
Sx f2 a	Sx f2	3	2	25.0	16.1	100.0	100.0	0.7
sx f2 a	sx f2	62	12	67.4	11.1	100.0	40.8	0.8

Table 72: Linguistic Material in Dax[604]

Dax LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Dax	rdbl	127	37	2.1	0.2	1.6	0.3	-1.6
core	Dax	107	28	84.3	11.1	75.7	19.0	-0.4
ana	Dax	9	3	7.1	2.4	8.1	4.9	0.2
/(x)	Dax	3	5	2.4	1.4	13.5	6.4	1.7
/Ssx	Dax	120	36	94.5	12.0	97.3	22.8	0.1
/Ssx cpd	/Ssx	110	30	91.7	12.1	83.3	20.6	-0.3
/Ssx lm	/Ssx	10	6	8.3	2.7	16.7	7.3	1.1
/S:sx	Dax	7	1	5.5	2.1	2.7	2.7	-0.8
wv	Dax	2	0	1.6	1.1	0.0	0.0	-1.4

Table 73: Distribution of Dax and its Variants to the A-Verse and Double Alliteration[605]

Dax A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Dax a	Dax	120	33	94.5	12.0	89.2	21.4	-0.2
core a	core	103	27	96.3	13.3	96.4	26.0	0.0
ana a	ana	9	3	100.0	47.1	100.0	81.6	0.0
/Ssx a	/Ssx	115	32	95.8	12.5	88.9	21.6	-0.3
/S:sx a	/S:sx	5	1	71.4	41.8	100.0	141.4	0.2
/(x) a	/(x)	3	2	100.0	81.6	40.0	33.5	-0.7
wv a	wv	1	0	50.0	61.2	0.0	0.0	-0.8
Dax DbAllit								
Dax da	Dax	115	26	90.6	11.7	70.3	18.0	-0.9
core da	core	99	24	92.5	12.9	85.7	23.8	-0.3
ana da	ana	9	3	100.0	47.1	100.0	81.6	0.0
/Ssx da	/Ssx	110	28	91.7	12.1	77.8	19.6	-0.6
/S:sx da	/S:sx	5	1	71.4	41.8	100.0	141.4	0.2
/(x) da	/(x)	3	1	100.0	81.6	20.0	21.9	-0.9

Table 74: Resolution in Dax, Suspended Resolution and Distribution to the A-Verses[606]

Dax Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	Dax	15	1	11.8	3.2	2.7	2.7	-2.2
S f2	Dax	33	9	26.0	5.1	24.3	9.0	-0.2
S f1+S f2	Dax	2	0	1.6	1.1	0.0	0.0	-1.4
Dax SusRes								
Sx f2	Dax	1	0	0.8	0.8	0.0	0.0	-1.0
sx f2	Dax	53	16	41.7	6.8	43.2	12.9	0.1
sx f2+S f1	Dax	8	0	6.3	2.3	0.0	0.0	-2.7
sx f2+S f2	Dax	1	0	0.8	0.8	0.0	0.0	-1.0

continued

[604] See Figure 52 on page 60.

[605] See Figure 53 on page 60.

[606] See Figure 54 on page 60.

Res SusRes A-V.	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1 a	S f1	13	0	86.7	32.8	0.0	0.0	-2.6
S f2 a	S f2	32	9	97.0	24.1	100.0	47.1	0.1
sx f2 a	sx f2	51	15	96.2	18.9	93.8	33.7	-0.1

Table 75: Linguistic Material in Da2, Distribution to the A-Verse and Double Alliteration[607]

Da2 LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Da2	rdbl	102	20	1.6	0.2	0.8	0.2	-3.2
core	Da2	98	18	96.1	13.6	90.0	29.2	-0.2
/(x)	Da2	0	1	0.0	0.0	5.0	5.1	1.0
/Sxx	Da2	101	20	99.0	13.9	100.0	31.6	0.0
Da2 A-Verse								
Da2 a	Da2	8	8	7.8	2.9	40.0	16.7	1.9
core a	core	7	6	7.1	2.8	33.3	15.7	1.6
/Sxx a	/Sxx	8	8	7.9	2.9	40.0	16.7	1.9
Da2 DbAllit								
Da2 da	Da2	4	5	3.9	2.0	25.0	12.5	1.7
core da	core	4	4	4.1	2.1	22.2	12.3	1.5
/Sxx da	/Sxx	4	0	3.9	2.0	0.0	0.0	-2.0

Table 76: Resolution in Da2[608]

Da2 Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	Da2	36	3	35.3	6.8	15.0	9.3	-1.8
S f2	Da2	4	1	3.9	2.0	5.0	5.1	0.2
Sf1+S f2	Da2	0	0					
Da2 Res A-Verse								
S f1 a	S f1	0	2	0.0	0.0	66.7	60.9	1.1
S f2 a	S f2	2	1	50.0	43.3	100.0	141.4	0.3

Table 77: Linguistic Material in Db[609]

Db LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Db	rdbl	140	22	2.3	0.2	0.9	0.2	-4.8
core	Db	34	11	24.3	4.6	50.0	18.5	1.4
ana	Db	9	0	6.4	2.2	0.0	0.0	-2.9
/(x)	Db	4	0	2.9	1.4	0.0	0.0	-2.0
/Sxs	Db	39	11	27.9	5.0	50.0	18.5	1.2
/S*x*s	Db	101	11	72.1	9.4	50.0	18.5	-1.1
/Sx:s	/S*x*s	71	8	70.3	10.9	72.7	33.8	0.1
/S:x-s	/S*x*s	29	0	28.7	6.0	0.0	0.0	-4.7
/S:x:s	/S*x*s	1	3	1.0	1.0	27.3	17.8	1.5
x-s+x:s	/S*x*s	30	3	29.7	6.2	27.3	17.8	-0.1

[607] See Figure 55 on page 60.

[608] See discussion in Type Da2 on page 60.

[609] See Figure 56 on page 60.

Table 78: Distribution of Db and its Variants to the A-Verse and Double Alliteration[610]

Db A-Verse	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
Db a	Db	66	17	47.1	7.0	77.3	25.0	1.2
core a	core	32	10	94.1	23.2	90.9	39.7	-0.1
ana a	ana	9	0	100.0	47.1	0.0	0.0	-2.1
/Sxs a	/Sxs	37	10	94.9	21.8	90.9	39.7	-0.1
/S*x*s a	/S*x*s	29	7	28.7	6.0	63.6	30.8	1.1
/Sx:s a	/Sx:s	28	7	39.4	8.8	87.5	45.3	1.0
Db DbAllit	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
Db da	Db	65	15	46.4	7.0	68.2	22.8	0.9
core da	core	32	9	94.1	23.2	81.8	36.8	-0.3
ana da	ana	9	0	100.0	47.1	0.0	0.0	-2.1
/(x) da	/(x)	4	0	100.0	70.7	0.0	0.0	-1.4
/Sxs da	/Sxs	37	9	94.9	21.8	81.8	36.8	-0.3
/S*x*s da	/S*x*s	28	6	27.7	5.9	54.5	27.7	0.9
/Sx:s da	/Sx:s	27	6	38.0	8.6	75.0	40.5	0.9

Table 79: Resolution in Db and Distribution to the A-Verse[611]

Db Res	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
S f1	Db	51	6	36.4	6.0	27.3	12.6	-0.7
S f2	Db	2	0	1.4	1.0	0.0	0.0	-1.4
s f2	Db	2	0	1.4	1.0	0.0	0.0	-1.4
Db Res A-Verse								
S f1 a	S f1	29	5	56.9	13.2	83.3	50.5	0.5
S f2 a	S f2	2	0	100.0	100.0	0.0	0.0	-1.0
s f2 a	s f2	1	0	50.0	61.2	0.0	0.0	-0.8

Db Res A-B-Verse	**S f1 a**	**S f1 b**	**% S f1 a**	**Err.S f1 a**	**% S f1 b**	**Err.S f1 b**	**Sign.**
Beo S f1	29	22	56.9	13.2	43.1	11.0	-0.8
Rid S f1	5	1	83.3	50.5	16.7	18.0	-1.2

Table 80: Linguistic Material in Dbx[612]

Dbx LingMat	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
Dbx	rdbl	32	6	0.5	0.1	0.3	0.1	-1.9
core	Dbx	14	2	43.8	14.0	33.3	27.2	-0.3
ana x	Dbx	3	0	9.4	5.7	0.0	0.0	-1.7
/Sxs	Dbx	16	2	50.0	15.3	33.3	27.2	-0.5
/S*x*s	Dbx	16	4	50.0	15.3	66.7	43.0	0.4
/Sx:s	/S*x*s	13	4	81.3	30.3	80.0	53.7	0.0
/S:x-s	/S*x*s	2	0	12.5	9.4	0.0	0.0	-1.3
/S:x:s	/S*x*s	1	0	6.3	6.4	0.0	0.0	-1.0

Table 81: Distribution of Dbx and its Variants to the A-Verse and Double Alliteration[613]

Dbx A-Verse	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
Dbx a	Dbx	30	4	93.8	23.8	66.7	43.0	-0.6
core a	core	14	2	100.0	37.8	100.0	100.0	0.0
/Sxs a	/Sxs	16	2	100.0	35.4	100.0	100.0	0.0
/S*x*s a	/S*x*s	14	2	87.5	32.0	50.0	43.3	-0.7
/Sx:s a	/Sx:s	13	2	100.0	39.2	50.0	43.3	-0.9

continued

[610] See Figure 57 on page 60.

[611] See Figure 58 on page 60 and discussion of ratio Db a- to b-verse with a resolved first primary position on page 60.

[612] See Figure 59 on page 60.

[613] See Figure 60 on page 60.

Dbx DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Dbx da	Dbx	30	4	93.8	23.8	66.7	43.0	-0.6
core da	core	14	1	100.0	37.8	50.0	61.2	-0.7
/Sxs da	/Sxs	16	1	100.0	35.4	50.0	61.2	-0.7
/S*x*s da	/S*x*s	14	3	87.5	32.0	75.0	57.3	-0.2
/Sx:s da	/Sx:s	13	2	100.0	39.2	50.0	43.3	-0.9
/S:x:s da	/S:x:s	1	0	100.0	141.4	0.0	0.0	-0.7

Table 82: Resolution in Dbx[614]

Dbx Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	Dbx	3	0	9.4	5.7	0.0	0.0	-1.7
S f2	Dbx	1	1	3.1	3.2	16.7	18.0	0.7
S f1 a	S f1	3	0	100.0	81.6	0.0	0.0	-1.2
S f2 a	S f2	1	1	100.0	141.4	100.0	141.4	0.0

Table 83: Linguistic Material in Db2[615]

Db2 LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Db2	rdbl	18	7	0.3	0.1	0.3	0.1	0.0
/(x)	Db2	1	1	5.6	5.7	14.3	15.3	0.5
/Sxxs	Db2	2	0	11.1	8.3	0.0	0.0	-1.3
/S*x*x*s	Db2	16	7	88.9	30.5	100.0	53.5	0.2
/Sx:x-s	/S*x*x*s	13	5	81.3	30.3	71.4	41.8	-0.2
/Sx:x:s	/S*x*x*s	1	2	6.3	6.4	28.6	22.9	0.9
Db2 A-Verse								
Db2 a	Db2	5	4	27.8	14.0	57.1	35.8	0.8
/S*x*x*s a	/S*x*x*s	3	4	18.8	11.8	57.1	35.8	1.0
/Sx:x-s a	/Sx:x-s	3	4	23.1	14.8	80.0	53.7	1.0
Db2 DbAllit								
Db2 da	Db2	5	4	27.8	14.0	57.1	35.8	0.8
/S*x*x*s da	/S*x*x*s	3	4	18.8	11.8	57.1	35.8	1.0
/Sx:x-s da	/Sx:x-s	3	4	23.1	14.8	80.0	53.7	1.0

Table 84: Resolution in Db2[616]

Db2 Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	Db2	5	5	27.8	14.0	71.4	41.8	1.0
S f2	Db2	1	0	5.6	5.7	0.0	0.0	-1.0
s f2	Db2	0	1	0.0	0.0	14.3	15.3	0.9
S f1 a	S f1	3	2	60.0	43.8	40.0	33.5	-0.4
S f2 a	S f2	1	0	100.0	141.4	0.0	0.0	-0.7
s f2 a	s f2	0	1	0.0	0.0	100.0	141.4	0.7

[614] See discussion of resolvable positions of type Dbx on page 60.

[615] See Figure 61 on page 60.

[616] See discussion of resolution in type Db2 on page 60.

Table 85: Linguistic Material in E[617]

E LingMat	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
E	rdbl	427	93	6.9	0.3	3.9	0.4	-5.5
core	E	301	67	70.5	5.3	72.0	11.5	0.1
/(x)	E	41	9	9.6	1.6	9.7	3.4	0.0
Ssx/ no wv	E	335	75	78.5	5.7	80.6	12.5	0.2
Ssx/	E	336	76	78.7	5.7	81.7	12.6	0.2
Ssx/ cpd	Ssx/	291	55	86.6	6.9	73.3	13.0	-0.9
Ssx/ lm	Ssx/	45	21	13.4	2.1	28.0	6.9	2.0
S*s*x/	E	91	17	21.3	2.5	18.3	4.8	-0.6
Ss:x-	S*s*x/	53	2	58.2	10.1	11.8	8.8	-3.5
S:sx	S*s*x/	23	6	25.3	5.9	35.3	16.8	0.6
S:s:x-	S*s*x/	7	1	7.7	3.0	5.9	6.1	-0.3
S:s:x	S*s*x/	6	2	6.6	2.8	11.8	8.8	0.6
Ss:x	S*s*x/	2	1	2.2	1.6	5.9	6.1	0.6
wv	E	1	1	0.2	0.2	1.1	1.1	0.8

Table 86: Distribution of E and its Variants to the A-Verse[618]

E A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
E a	E	126	54	29.5	3.0	58.1	9.9	2.8
core a	core	99	37	32.9	3.8	55.2	11.3	1.9
/(x) a	/(x)	13	8	31.7	10.1	88.9	43.2	1.3
Ssx/ a	Ssx/	111	44	33.0	3.6	58.7	11.1	2.2
Ssx/ cpd a	Ssx/	94	33	28.0	3.3	44.0	9.2	1.6
Ssx/ lm a	Ssx/	17	12	5.1	1.3	16.0	5.0	2.1
S*s*x/ a	S*s*x/	15	9	16.5	4.6	52.9	21.8	1.6

Table 87: Double Alliteration in Type E A-Verses[619]

E DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
E da	E	98	31	23.0	2.6	33.3	6.9	1.4
E da SAsx/SA	E da	96	29	98.0	14.1	93.5	24.2	-0.2
E da SAsAx/S	E da	1	2	1.0	1.0	6.5	4.7	1.1
E ta	E da	1	0	1.0	1.0	0.0	0.0	-1.0
core da	core	73	21	24.3	3.2	31.3	7.8	0.8
/(x) da	/(x)	11	5	26.8	9.1	55.6	31.0	0.9
Ssx/ da	Ssx/	85	25	25.3	3.1	33.3	7.7	1.0
Ssx/ cpd da	Ssx/	74	16	22.0	2.8	21.3	5.9	-0.1
Ssx/ lm da	Ssx/	11	9	3.3	1.0	12.0	4.2	2.0
S*s*x/ da	S*s*x/	15	6	16.5	4.6	35.3	16.8	1.1
Ss:x- da	Ss:x-	11	1	20.8	6.9	50.0	61.2	0.5
S:sx da	S:sx	3	2	13.0	8.0	33.3	27.2	0.7
S:s:x- da	S:s:x-	0	0	0.0	0.0	0.0	0.0	0.0
S:s:x da	S:s:x	1	2	16.7	18.0	100.0	100.0	0.8
Ss:x da	Ss:x	0	1	0.0	0.0	100.0	141.4	0.7
wv da	wv	0	0	0.0	0.0	0.0	0.0	0.0

[617] See Figure 62 on page 60.
[618] See Figure 63 on page 60.
[619] See Figure 64 on page 60.

Table 88: Resolution in E, Distribution to the A-Verse and Suspended Resolution[620]

E Res	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	E	113	17	26.5	2.8	18.3	4.8	-1.5
S f2	E	33	16	7.7	1.4	17.2	4.7	1.9
s f1	E	4	2	0.9	0.5	2.2	1.5	0.8
S f1+S f2	E	4	1	0.9	0.5	1.1	1.1	0.1
S f2+s f1	E	1	1	0.2	0.2	1.1	1.1	0.8
E Res A-Verse								
S f1 a	S f1	37	8	32.7	6.2	47.1	20.2	0.7
S f2 a	S f2	15	11	45.5	14.2	68.8	26.9	0.8
s f1 a	s f1	2	2	50.0	43.3	100.0	100.0	0.5
S f1+S f2 a	S f1+S f2	3	1	75.0	57.3	100.0	141.4	0.2
S f2+s f1 a	S f2+s f1	0	1	0.0	0.0	100.0	141.4	0.7
E SusRes								
sx f1	E	5	0	1.2	0.5	0.0	0.0	-2.2

Table 89: Hypermetrical Verses[621]

Hyp Light	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
hyp	rdbl	21	6	0.3	0.1	0.3	0.1	-0.7
xx//*	hyp	11	6	52.4	19.5	100.0	57.7	0.8
xx//Sx/Sx	hyp	9	6	42.9	17.1	100.0	57.7	0.9
xx//Sx/Sx	*xx//*/*	9	6	81.8	36.8	100.0	57.7	0.3

Hyp String	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
core	//Sx/Sx	1	3	11.1	11.7	50.0	35.4	1.0
strg	//Sx/Sx	8	3	88.9	43.2	50.0	35.4	-0.7
(x)xx//	//Sx/Sx	2	2	22.2	17.4	33.3	27.2	0.3
(xx)xx//	//Sx/Sx	3	1	33.3	22.2	16.7	18.0	-0.6
(xxx)xx//	//Sx/Sx	3	0	33.3	22.2	0.0	0.0	-1.5
Hyp Intex								
//Sx/(x)Sx	//Sx/Sx	2	2	22.2	17.4	33.3	27.2	0.3

Table 90: Distribution of Compound Forms[622]

Cpds All	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
cpds all	rdbl	1897	381	30.7	0.8	16.0	0.9	-12.2
n all	cpds all	1419	263	74.8	2.6	69.0	5.5	-0.9
lex all	cpds all	143	101	7.5	0.7	26.5	3.0	6.2
hw all	cpds all	26	17	1.4	0.3	4.5	1.1	2.7
pr all	cpds all	309	0	16.3	1.0	0.0	0.0	-16.3
wv	cpds all	289	58	15.2	1.0	15.2	2.1	0.0

[620] See Figure 65 on page 60.

[621] See Figure 66 on page 60.

[622] See "Analysis of Compounds" on page 60.

Table 91: Nominal Compounds and their Foot Patterns[623]

NCpds Feet	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
cpds all	rdbl	1897	381	30.7	0.8	16.0	0.9	-12.2
n all	cpds all	1419	263	74.8	2.6	69.0	5.5	-0.9
n no wv	cpds no wv	1168	218	72.6	2.8	67.5	5.9	-0.8
n Ssx	n no wv	739	130	63.3	3.0	59.6	6.6	-0.5
n Ss	n no wv	310	63	26.5	1.7	28.9	4.1	0.5
n Sxs	n no wv	112	23	9.6	0.9	10.6	2.3	0.4
n Sxxs	n no wv	3	0	0.3	0.1	0.0	0.0	-1.7
n Sx	n no wv	4	1	0.3	0.2	0.5	0.5	0.2
n Sxx	n no wv	0	1	0.0	0.0	0.5	0.5	1.0

Table 92: Lexicalized Compounds and their Foot Patterns[624]

LexCpd Feet	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
cpds all	rdbl	1897	381	30.7	0.8	16.0	0.9	-12.2
lex all	cpds all	143	101	7.5	0.7	26.5	3.0	6.2
lex no wv	cpds no wv	122	88	6.4	0.6	23.1	2.7	6.0
lex Ssx	lex no wv	52	30	42.6	7.1	34.1	7.2	-0.8
lex Ss	lex no wv	51	30	41.8	7.0	34.1	7.2	-0.8
lex Sxs	lex no wv	4	4	3.3	1.7	4.5	2.3	0.4
lex Sx	lex no wv	11	11	9.0	2.8	12.5	4.0	0.7
lex Sxx	lex no wv	4	13	3.3	1.7	14.8	4.4	2.4

Table 93: Lexicalized Root Syllables with Unambiguous Stress[625]

LexStress	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
cpds all	rdbl	1897	381	30.7	0.8	16.0	0.9	-12.2
lex all	cpds all	143	101	7.5	0.7	26.5	3.0	6.2
lex no wv	cpds all	121	90	6.0	0.6	21.0	2.4	6.0
amb str	l cpds+wv	79	51	55.2	7.7	51.0	8.8	-0.4
unamb str	l cpds+wv	42	39	29.4	5.2	39.0	7.4	1.1
final str	unamb str	8	7	19.0	7.3	17.9	7.4	-0.1
final unstr	unamb str	11	10	26.2	8.9	25.6	9.1	0.0
medial str	unamb str	19	9	45.2	12.5	23.1	8.5	-1.5
medial unstr	unamb str	4	13	9.5	5.0	33.3	10.7	2.0

Table 94: Individual Lexicalized Root Constituents[626]

LexRoots	Normalization	Beo	Rid	% Beo	Err.Be	% Rid	Err.Ri	Sign.
lex all	cpds all	143	100	7.5	0.7	26.2	2.9	6.2
cund	lex all	1	0	0.7	0.7	0.0	0.0	-1.0
dōm	lex all	3	1	2.1	1.2	1.0	1.0	-0.7
fæst	lex all	8	9	5.6	2.0	8.9	3.1	0.9
feald	lex all	1	0	0.7	0.7	0.0	0.0	-1.0
ful	lex all	9	3	6.3	2.2	3.0	1.7	-1.2
hād	lex all	0	1	0.0	0.0	1.0	1.0	1.0
lāc	lex all	5	4	3.5	1.6	4.0	2.0	0.2
lēas	lex all	16	7	11.2	2.9	6.9	2.7	-1.1

continued

[623] See Figure 67 on page 60.

[624] See Figure 68 on page 60.

[625] See Figure 69 on page 60.

[626] See reference in "Distribution of Lexicalized Compounds" on page 60.

LexRoots	Normalization	Beo	Rid	% Beo	Err.Be	% Rid	Err.Ri	Sign.
līc	lex all	78	62	54.5	7.7	61.4	9.9	0.5
sum	lex all	6	2	4.2	1.7	2.0	1.4	-1.0
weard	lex all	5	9	3.5	1.6	8.9	3.1	1.6
wist	lex all	0	1	0.0	0.0	1.0	1.0	1.0
scipe	lex all	11	1	7.7	2.4	1.0	1.0	-2.6

Table 95: Whole-Verse Compounds, Distribution to the A-Verse and Double Alliteration[627]

WVCpds Types	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
wv	rdbl	289	58	4.7	0.3	2.4	0.3	-5.2
wv A1	wv	196	39	67.8	6.3	67.2	13.9	0.0
wv A2a	wv	1	1	0.3	0.3	1.7	1.7	0.8
wv 3A	wv	2	0	0.7	0.5	0.0	0.0	-1.4
wv C	wv	1	0	0.3	0.3	0.0	0.0	-1.0
wv Da	wv	83	16	28.7	3.6	27.6	7.8	-0.1
wv Dax	wv	2	0	0.7	0.5	0.0	0.0	-1.4
wv Da2	wv	1	1	0.3	0.3	1.7	1.7	0.8
wv E	wv	1	1	0.3	0.3	1.7	1.7	0.8
wv hyp	wv	2	0	0.7	0.5	0.0	0.0	-1.4
Types A-Verse								
wv a	wv	175	24	60.6	5.8	41.4	10.0	-1.7
wv A1 a	wv A1	124	12	63.3	7.3	30.8	10.2	-2.6
wv A2a a	wv A2a	1	1	100.0	141.4	100.0	141.4	0.0
wv 3A a	wv 3A	1	0	50.0	61.2	0.0	0.0	-0.8
wv C a	wv C	1	0	100.0	141.4	0.0	0.0	-0.7
wv Da a	wv Da	44	9	53.0	9.9	56.3	23.4	0.1
wv Dax a	wv Dax	1	0	50.0	61.2	0.0	0.0	-0.8
wv Da2 a	wv Da2	1	1	33.3	38.5	100.0	141.4	0.5
wv E a	wv E	0	1	0.0	0.0	100.0	141.4	0.7
wv hyp a	wv hyp	2	0	100.0	100.0	0.0	0.0	-1.0
Types DbAllit	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
wv A1 da	wv A1 a	6	2	4.8	2.0	16.7	12.7	0.9
wv A2a da	wv A2a a	1	0	100.0	141.4	0.0	0.0	-0.7
wv Da da	wv Da a	6	2	13.6	5.9	22.2	17.4	0.5
wv hyp da	wv hyp a	2	0	100.0	100.0	0.0	0.0	-1.0

Table 96: Metrical Restriction on Compound Elements[628]

Tera	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
n cpds	cpds all	1165	233	57.3	2.1	54.3	4.4	-0.6
objectionable	n cpds	21	8	1.8	0.4	3.4	1.2	1.3
syncopation	obj	6	1	28.6	13.2	12.5	13.3	-0.9
epenthesis	obj	12	5	57.1	20.7	62.5	35.6	0.1
pseudo-epenthesis	obj	2	2	9.5	7.0	25.0	19.8	0.7
exceptions	obj	1	0	4.8	4.9	0.0	0.0	-1.0

[627] See Figure 70 on page 60.
[628] See Figure 71 on page 60.

Table 97: Frequency and Rank of Types in both Texts in the Order of Frequency in *Beowulf*[629]

BeoFr.	BeoR.	RidFr.	RidR	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A1	1	A1	1	2033	997	32.8	0.8	42.0	1.6	5.1
C	2	C	2	1093	400	17.7	0.6	16.8	0.9	-0.8
B	3	B	3	832	325	13.4	0.5	13.7	0.8	0.3
E	4	A3	5	427	139	6.9	0.3	5.9	0.5	-1.7
Da	5	E	7	367	93	5.9	0.3	3.9	0.4	-3.9
A3	6	B2	7	289	82	4.7	0.3	3.5	0.4	-2.5
A2a	7	A2a	8	240	62	3.9	0.3	2.6	0.3	-3.0
B2	8	Da	9	170	54	2.7	0.2	2.3	0.3	-1.2
Db	9	3A	9	140	44	2.3	0.2	1.9	0.3	-1.2
Dax	9	Dax	10	127	37	2.1	0.2	1.6	0.3	-1.6
A2b	10	A2b	10	106	32	1.7	0.2	1.3	0.2	-1.2
Da2	10	C2	11	102	25	1.6	0.2	1.1	0.2	-2.2
3A	11	Db	11	77	22	1.2	0.1	0.9	0.2	-1.3
Dbx	12	Da2	11	32	20	0.5	0.1	0.8	0.2	1.5
A2ab	12	A3b	12	30	10	0.5	0.1	0.4	0.1	-0.4
Da2x	12	A2ab	12	25	9	0.4	0.1	0.4	0.1	-0.2
A3b	12	Db2	13	23	7	0.4	0.1	0.3	0.1	-0.6
hyp	13	Dbx	13	21	6	0.3	0.1	0.3	0.1	-0.7
C2	13	hyp	13	19	6	0.3	0.1	0.3	0.1	-0.4
Db2	13	3Ab	13	18	4	0.3	0.1	0.2	0.1	-1.1
3Ab	13	Db2x	none	17	0	0.3	0.1	0.0	0.0	-1.5
Db2x	14	Da2x	none	1	0	0.02	0.02	0.0	0.0	-1.0

Table 98: Anacrustic Verses[630]

AnaAll	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
ana all	rdbl	83	23	1.3	0.1	1.0	0.2	-1.5
ana all	rdbl ana	83	23	8.1	0.9	9.5	2.1	0.7
A1 ana	A1	41	19	2.0	0.3	1.9	0.4	-0.2
A2b ana	A2b	5	0	4.7	2.2	0.0	0.0	-2.2
3A ana	3A	1	1	1.3	1.3	2.3	2.3	0.4
Da ana	Da	14	0	16.9	4.9	0.0	0.0	-3.5
Dax ana	Dax	9	3	7.1	2.4	8.1	4.9	0.2
Db ana	Db	9	0	6.4	2.2	0.0	0.0	-2.9
Db2 ana	Db2	1	0	5.6	5.7	0.0	0.0	-1.0
Dbx ana	Dbx	3	0	9.4	5.7	0.0	0.0	-1.7

Table 99: Internal Extrametrical Syllables[631]

IntexAll	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
intex	rdbl intex	758	457	22.0	0.9	27.9	1.5	3.4
A1 intex	A1	639	412	31.4	1.4	41.3	2.4	3.5
A2a intex	A2a	4	9	1.7	0.8	14.5	5.2	2.4
A2b intex	A2b	31	11	29.2	6.0	34.4	12.0	0.4
A2ab intex	A2ab	9	1	30.0	11.4	11.1	11.7	-1.2
3A intex	3A	4	7	5.2	2.7	15.9	6.5	1.5
Da intex	Da	22	1	6.0	1.3	1.9	1.9	-1.8
Dax intex	Dax	3	5	2.4	1.4	13.5	6.4	1.7
Da2 intex	Da2	0	1	0.0	0.0	5.0	5.1	1.0
Db intex	Db	4	0	2.9	1.4	0.0	0.0	-2.0
Db2 intex	Db2	1	1	5.6	5.7	14.3	15.3	0.5
E intex	E	41	9	9.6	1.6	9.7	3.4	0.0

[629] See Figure 72 on page 60 and Figure 73 on page 60.

[630] See Figure 74 on page 60.

[631] See Figure 75 on page 60.

Table 100: The Light Foot[632]

LightFoot All	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
rdbl lft	rdbl	2426	981	39.2	0.9	41.3	1.6	1.2
A3	rdbl lft	289	139	4.7	0.3	5.9	0.5	2.0
A3b	rdbl lft	23	10	0.4	0.1	0.4	0.1	0.3
B	rdbl lft	832	325	13.4	0.5	13.7	0.8	0.3
B2	rdbl lft	170	82	2.7	0.2	3.5	0.4	1.6
C	rdbl lft	1093	400	17.7	0.6	16.8	0.9	-0.8
C2	rdbl lft	19	25	0.3	0.1	1.1	0.2	3.3

Table 101: The Light Foot in A3b and A3[633]

LightFoot A3b	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
A3b core	A3b	0	3	0.0	0.0	30.0	19.7	1.5
A3b strg	A3b	23	7	100.0	29.5	70.0	34.5	-0.7
xxx/	A3b	7	4	30.4	13.1	40.0	23.7	0.4
xxxx/	A3b	15	2	65.2	21.6	20.0	15.5	-1.7
xxxxx/	A3b	0	1	0.0	0.0	10.0	10.5	1.0
xxxxxx/	A3b	1	0	4.3	4.4	0.0	0.0	-1.0
Sign.Str. A3b		Sing.	Sign.					
xx/:xxx/		2.1	1.3					
xx/:xxxx/		2.9	0.8					
xxx/:xxxx/		1.4	0.7					
LightFoot A3	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
A3 core	A3	9	14	3.1	1.1	10.1	2.8	2.3
A3 strg	A3	280	125	96.9	8.1	89.9	11.1	-0.5
xxx/	A3	103	45	35.6	4.1	32.4	5.6	-0.5
xxxx/	A3	121	65	41.9	4.5	46.8	7.0	0.6
xxxxx/	A3	48	10	16.6	2.6	7.2	2.4	-2.7
xxxxxx/	A3	8	4	2.8	1.0	2.9	1.5	0.1
xxxxxxx/	A3	0	1	0.0	0.0	0.7	0.7	1.0
Sign.Stress. A3		Sign.	Sign.					
xx/:xxx/		7.7	3.8					
xx/:xxxx/		8.3	5.0					
xxx/:xxxx/		1.0	1.6					

Table 102: The Light Foot in B and B2[634]

LightFoot B	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
x/	B	82	65	9.9	1.1	20.0	2.7	3.4
xx/	B	520	194	62.5	3.5	59.7	5.4	-0.4
xxx/	B	202	62	24.3	1.9	19.1	2.6	-1.6
xxxx/	B	27	3	3.2	0.6	0.9	0.5	-2.8
xxxxx/	B	1	1	0.1	0.1	0.3	0.3	0.6
Sign.Stress. B		Sign.	Sign.					
xx/:xxx/		9.6	6.7					
LightFoot B2	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
x/	B2	14	11	8.2	2.3	13.4	4.3	1.1
xx/	B2	89	55	52.4	6.8	67.1	11.7	1.1
xxx/	B2	48	11	28.2	4.6	13.4	4.3	-2.3
xxxx/	B2	12	5	7.1	2.1	6.1	2.8	-0.3
xxxxx/	B2	7	0	4.1	1.6	0.0	0.0	-2.6

continued

[632] See Figure 76 on page 60.
[633] See Figure 77 on page 60.
[634] See Figure 78 on page 60.

SignStress. B2		
x/:xx/	6.1	4.3
xx/:xxx/	2.9	4.3
xxx/:xxxx/	4.2	1.4

Table 103: The Light Foot in C and C2[635]

LightFoot C	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
x/	C	261	108	23.9	1.6	27.0	2.9	0.9
xx/	C	608	205	55.6	2.8	51.3	4.4	-0.8
xxx/	C	176	79	16.1	1.3	19.8	2.4	1.3
xxxx/	C	45	7	4.1	0.6	1.8	0.7	-2.6
xxxxx/	C	3	1	0.3	0.2	0.3	0.3	-0.1
SignStress. C		**Sign.**	**Sign.**					
x/:xx/		9.7	4.6					
x/:xxx/		3.7	1.9					
xx/:xxx/		12.7	6.3					
xxx/:xxxx/		8.3	7.1					
Light Foot C2	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
x/	C2	3	14	15.8	9.8	56.0	18.7	1.9
xx/	C2	12	10	63.2	23.3	40.0	15.0	-0.8
xxx/	C2	3	1	15.8	9.8	4.0	4.1	-1.1
xxxx/	C2	1	0	5.3	5.4	0.0	0.0	-1.0
SignStress. C2		**Sign.**	**Sign.**					
x/:xx/		1.9	0.7					
x/:xxx/		0.0	2.7					
xx/:xxx/		1.9	2.3					
xxx/:xxxx/		0.9	1.0					

Table 104: Average-Size String in the Light Foot[636]

Type	**Pattern**	**AvgStr.Beo**	**AvgStr.Rid**	**Sign.Types**	**Beo**	**Rid**
A3	xx/Sx	3.80	3.63	A3:A3b	0.0	0.5
A3b	xx/Ss	3.78	3.10	A3b:B2	1.6	0.9
B	x/Sxs	2.21	2.12	B:C2	0.2	1.6
B2	x/Sxxs	2.46	2.02	B2:B	0.0	0.0
C	x/Ssx	2.01	1.48	C:B2	2.1	0.6
C2	x/Sxx	2.11	1.97	C2:C	0.2	1.5

Table 105: Distribution of S* Foot Patterns[637]

S* Foot All	**Normalization**	**Beo**	**Rid**	**% Beo**	**Err.Beo**	**% Rid**	**Err.Rid**	**Sign.**
Ssx	S*foot	2016	585	22.6	0.6	16.4	0.7	-6.8
Sxs	S*foot	1004	353	11.3	0.4	9.9	0.6	-2.1
Ss	S*foot	449	126	5.0	0.2	3.5	0.3	-3.8
Sxxs	S*foot	189	89	2.1	0.2	2.5	0.3	1.2
Sx	S*foot	5005	2326	56.2	1.0	65.1	1.7	4.5
Sxx	S*foot	243	93	2.7	0.2	2.6	0.3	-0.4

[635] See Figure 79 on page 60.
[636] See Figure 80 on page 60.
[637] See Figure 81 on page 60.

Table 106: Word Group Feet[638]

WordGroupFeet	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
wg all	S*foot	2205	972	24.8	0.6	27.2	1.0	2.1
Ssx wg	Ssx all	638	283	31.6	1.4	48.4	3.5	4.4
Sxs wg	Sxs all	879	320	87.5	4.0	90.7	7.0	0.4
Ss wg	Ss all	20	15	4.5	1.0	11.9	3.3	2.2
Sxxs wg	Sxxs all	186	89	98.4	10.2	100.0	15.0	0.1
Sx wg	Sx all	404	227	8.1	0.4	9.8	0.7	2.1
Sxx wg	Sxx all	78	37	32.1	4.2	39.8	7.7	0.9

Table 107: The Ssx Foot[639]

Ssx WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Ssx wf	Ssx all	1378	301	68.4	2.4	51.5	3.6	-3.9
Ssx cpd	Ssx all	1170	220	58.0	2.1	37.6	3.0	-5.6
Ssx lm	Ssx all	208	81	10.3	0.8	13.8	1.6	2.0
Ssx wg	Ssx all	638	283	31.6	1.4	48.4	3.5	4.4
Ssx WGType								
C wg	C	526	265	48.1	2.6	66.3	5.2	3.1
Da wg	Da	14	0	3.8	1.0	0.0	0.0	-3.7
Dax wg	Dax	7	1	5.5	2.1	2.7	2.7	-0.8
E wg	E	91	17	21.3	2.5	18.3	4.8	-0.6

Table 108: The Ss Foot[640]

Ss WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Ss wf	Ss all	429	111	95.5	6.5	88.1	11.5	-0.6
Ss wg	Ss all	20	15	4.5	1.0	11.9	3.3	2.2
Ss WGType								
A2a wg	A2a	14	8	5.8	1.6	12.9	4.8	1.4
A2ab wg	A2ab	1	1	3.3	3.4	11.1	11.7	0.6
A2b wg	A2b	5	6	4.7	2.2	18.8	8.3	1.6
Ss WGFoot								
S:s/ wg	Ss wg	14	8	70.0	24.4	53.3	23.3	-0.5
/S:s wg	Ss wg	6	7	30.0	14.0	46.7	21.4	0.7

Table 109: The Sx Foot[641]

Sx WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx wf	Sx all	4601	2098	91.9	1.9	90.2	2.7	-0.5
Sx wg	Sx all	404	227	8.1	0.4	9.8	0.7	2.1
Sx WGType								
A1 wg f1	A1	355	211	17.5	1.0	21.2	1.6	2.0
A1 wg f2	A1	0	1	0.0	0.0	0.1	0.1	1.0
A2b wg	A2b	45	15	42.5	7.6	46.9	14.7	0.3
hyp wg	hyp Sx	4	1	9.5	5.0	8.3	8.7	-0.1

[638] See Figure 82 on page 60.
[639] See Figure 83 on page 60.
[640] See Figure 84 on page 60.
[641] See Figure 85 on page 60.

Table 110: The Sxx Foot[642]

Sxx WordGroup	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sxx wf	Sxx all	171	68	70.4	7.0	73.1	11.7	0.2
Sxx wg	Sxx all	78	36	32.1	4.2	38.7	7.6	0.8
Sxx WGType								
3A wg	3A	69	36	89.6	14.9	81.8	18.4	-0.3
3Ab wg	3Ab	8	0	47.1	20.2	0.0	0.0	-2.3
Da2 wg	Da2	1	0	1.0	1.0	0.0	0.0	-1.0
hyp wg	hyp	1	0	33.3	38.4	0	0	-0.8

Table 111: Prefix Counts in Ssx, Sxs, and Sxxs[643]

Prefixes	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
x- all	Ssx,Sxs,Sxxs	352	58	20.7	1.2	8.4	1.1	-7.4
B /S:x-s	/S*s*x	122	19	16.0	1.6	6.2	1.5	-4.6
B2 /Sx:x-s	/S*x*x*s	120	31	71.0	8.5	37.8	8.0	-2.9
B2 /S:x:x-s	/S*x*x*s	3	0	1.8	1.0	0.0	0.0	-1.7
B2 /S:xx-s	/S*x*x*s	1	0	0.6	0.6	0.0	0.0	-1.0
Db /S:x-s	/S*x*s	29	0	28.7	6.0	0.0	0.0	-4.7
Dbx /S:x-s	/S*x*s	2	0	12.5	9.4	0.0	0.0	-1.3
Db2 /Sx:x-s	/S*x*x*s	13	5	81.3	30.3	71.4	41.8	-0.2
Db2 /S:x:x-s	/S*x*x*s	1	0	6.3	6.4	0.0	0.0	-1.0
Db2 /S:xx-s	/S*x*x*s	1	0	6.3	6.4	0.0	0.0	-1.0
E Ss:x-	S*s*x/	53	2	58.2	10.1	11.8	8.8	-3.5
E S:s:x-	S*s*x/	7	1	7.7	3.0	5.9	6.1	-0.3

Table 112: Distribution to the A-Verse[644]

A-Verse	Normalization	Beo	Rid	% Beo	Err.Be	% Rid	Err.Ri	Sign.a	Sign.b
3Ab a	3Ab	17	4	100.	34.3	100.	70.7	0.0	0.0
A3b a	A3b	23	10	100.	29.5	100.	44.7	0.0	0.0
A3 a	A3	289	130	100.	8.3	93.5	11.4	0.5	2.9
Dax a	Dax	120	33	94.5	12.0	89.2	21.4	-0.2	0.9
Dbx a	Dbx	30	4	93.8	23.8	66.7	43.0	-0.6	1.0
A2ab a	A2ab	28	9	93.3	24.5	100.	47.1	0.1	-1.4
A2b a	A2b	98	26	92.5	13.0	81.3	21.5	-0.4	1.3
C2 a	C2	14	19	73.7	26.0	76.0	23.1	0.1	-0.1
A2a a	A2a	176	34	73.3	7.3	54.8	11.7	-1.3	1.7
3A a	3A	55	26	71.4	12.6	59.1	14.6	-0.6	0.9
Da a	Da	187	42	51.0	4.6	77.8	16.0	1.6	-3.2
A1 a	A1	102	416	50.4	1.9	41.7	2.4	-2.8	2.4
Db a	Db	66	17	47.1	7.0	77.3	25.0	1.2	-2.2
C a	C	502	182	45.9	2.5	45.5	4.1	-0.1	0.1
B2 a	B2	55	34	32.4	5.0	41.5	8.5	0.9	-0.7
E a	E	126	54	29.5	3.0	58.1	9.9	2.8	-3.0
B a	B	233	126	28.0	2.1	38.8	4.1	2.4	-1.6
Db2 a	Db2	5	4	27.8	14.0	57.1	35.8	0.8	-0.7
Da2 a	Da2	8	8	7.8	2.9	40.0	16.7	1.9	-1.3

The table includes all the types unlike Figure 88 on page 165 where only types with significant or close-to-significant statistical deviations between the two texts are plotted. Here, the types are grouped according to their percentage of verses in the a-verse in descending order, so that the types restricted to the a-verse in *Beowulf* come first and those with distribution to the a- and the

[642] See Figure 86 on page 60.

[643] See Figure 87 on page 60.

[644] See Figure 88 on page 60.

b-verse follow. The deviations for the b-verse are added in the last column of the table for easy reference. See also Table 113 below.

Table 113: Distribution to the B-Verse

B-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
3A b	3A	22	18	28.6	6.9	40.9	11.4	0.9
3Ab b	3Ab	0	0	0.0	0.0	0.0	0.0	0.0
A1 b	A1	1008	581	49.6	1.9	58.3	3.0	2.4
A2a b	A2a	64	28	26.7	3.8	45.2	10.3	1.7
A2ab b	A2ab	2	0	6.7	4.9	0.0	0.0	-1.4
A2b b	A2b	8	6	7.5	2.8	18.8	8.3	1.3
A3 b	A3	0	9	0.0	0.0	6.5	2.2	2.9
A3b b	A3b	0	0	0.0	0.0	0.0	0.0	0.0
B b	B	599	199	72.0	3.9	61.2	5.5	-1.6
B2 b	B2	115	48	67.6	8.2	58.5	10.6	-0.7
C b	C	591	218	54.1	2.8	54.5	4.6	0.1
C2 b	C2	5	6	26.3	13.2	24.0	10.9	-0.1
Da b	Da	180	12	49.0	4.5	22.2	7.1	-3.2
Da2 b	Da2	94	12	92.2	13.2	60.0	21.9	-1.3
Dax b	Dax	7	4	5.5	2.1	10.8	5.7	0.9
Db b	Db	74	5	52.9	7.6	22.7	11.3	-2.2
Db2 b	Db2	13	3	72.2	26.3	42.9	29.6	-0.7
Dbx b	Dbx	2	2	6.3	4.6	33.3	27.2	1.0
E b	E	301	39	70.5	5.3	41.9	8.0	-3.0

Table 114: Double Alliteration in A-Verses of All Types[645]

DbAllit	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
3Ab da	3Ab	17	4	100.0	34.3	100.0	70.7	0.0
Dbx da	Dbx	30	4	93.8	23.8	66.7	43.0	-0.6
Dax da	Dax	115	26	90.6	11.7	70.3	18.0	-0.9
A2ab da	A2ab	27	7	90.0	23.9	77.8	39.2	-0.3
A2b da	A2b	94	23	88.7	12.6	71.9	19.6	-0.7
3A da	3A	54	21	70.1	12.4	47.7	12.7	-1.3
A2a da	A2a	160	24	66.7	6.8	38.7	9.3	-2.4
Db da	Db	65	15	46.4	7.0	68.2	22.8	0.9
A1 da	A1	610	269	30.0	1.4	27.0	1.9	-1.3
Da da	Da	104	31	28.3	3.1	57.4	12.9	2.2
Db2 da	Db2	5	4	27.8	14.0	57.1	35.8	0.8
E da	E	98	31	23.0	2.6	33.3	6.9	1.4
B2 da	B2	19	13	11.2	2.7	15.9	4.7	0.0
B da	B	73	32	8.8	1.1	9.8	1.8	0.5
C da	C	51	35	4.7	0.7	8.8	1.5	2.4
Da2 da	Da2	4	5	3.9	2.0	25.0	12.5	1.7

[645] See Figure 89 on page 60.

Table 115: Resolved Primary Positions in the First Foot of All Types[646]

ResS F1	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1	S f1 all	711	194	19.0	0.8	14.0	1.1	-3.8
3A S f1	3A	10	16	13.0	4.4	36.4	10.6	2.0
3Ab S f1	3Ab	1	0	5.9	6.1	0.0	0.0	1.0
A1 S f1	A1	253	120	12.4	0.8	12.0	1.2	-0.3
A2a S f1	A2a	48	9	20.0	3.2	14.5	5.2	-0.9
A2ab S f1	A2ab	7	1	23.3	9.8	11.1	11.7	-0.8
A2b S f1	A2b	18	2	14.2	3.9	6.3	4.6	-1.3
Da S f1	Da	151	14	41.1	4.0	25.9	7.8	-1.7
Da2 S f1	Da2	36	3	35.3	6.8	15.0	9.3	-1.8
Dax S f1	Dax	15	1	11.8	3.2	2.7	2.7	-2.2
Db S f1	Db	51	6	36.4	6.0	27.3	12.6	-0.7
Db2 S f1	Db2	5	5	27.8	14.0	71.4	41.8	1.0
Dbx S f1	Dbx	3	0	9.4	5.7	0.0	0.0	-1.7
E S f1	E	113	17	26.5	2.8	18.3	4.8	-1.5

Table 116: A-Verses with Resolved Primary Positions in the First Foot[647]

ResS F1 A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f1 a	S f1	363	97	51.1	3.3	50.0	6.2	-0.1
3A S f1 a	3A	9	11	90.0	41.4	68.8	26.9	-0.4
3Ab S f1 a	3Ab	1	0	100.0	141.4	0.0	0.0	-0.7
A1 S f1 a	A1	135	46	53.4	5.7	38.3	6.6	-1.7
A2a S f1 a	A2a	37	7	77.1	16.9	77.8	39.2	0.0
A2ab S f1 a	A2ab	7	1	100.0	53.5	100.0	141.4	0.0
A2b S f1 a	A2b	15	2	83.3	29.1	100.0	100.0	0.2
Da S f1 a	Da	74	13	49.3	7.0	92.9	35.8	1.2
Da2 S f1 a	Da2	0	2	0.0	0.0	66.7	60.9	1.1
Dax S f1 a	Dax	13	0	86.7	32.8	0.0	0.0	-2.6
Db S f1 a	Db	29	5	56.9	13.2	83.3	50.5	0.5
Db2 S f1 a	Db2	3	2	60.0	43.8	40.0	33.5	-0.4
Dbx S f1 a	Dbx	3	0	100.0	81.6	0.0	0.0	-1.2
E S f1 a	E	37	8	92.5	21.1	100.0	50.0	0.1

Table 117: Resolved Primary Positions in the Second Foot of Types A to B[648]

ResS F2 AtoB	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f2	S f2 all	653	206	10.6	0.4	8.7	0.6	-2.5
3A S f2	3A	6	0	7.8	3.3	0.0	0.0	-2.4
3Ab S f2	3Ab	1	1	5.9	6.1	25.0	28.0	0.7
A1 S f2	A1	151	37	7.4	0.6	3.7	0.6	-4.2
A2a S f2	A2a	28	4	11.7	2.3	6.5	3.3	-1.3
A2ab S f2	A2ab	4	3	13.3	7.1	33.3	22.2	0.9
A2b S f2	A2b	22	2	20.8	4.9	6.3	4.6	-2.2
A3 S f2	A3	23	9	8.0	1.7	6.5	2.2	-0.5
A3b S f2	A3b	6	1	26.1	12.0	10.0	10.5	-1.0
B S f2	B	73	15	8.8	1.1	4.6	1.2	-2.6
B2 S f2	B2	13	1	7.6	2.2	1.2	1.2	-2.6

[646] See Figure 90 on page 60.

[647] See Figure 91 on page 60.

[648] See Figure 92 on page 60.

Table 118: Resolved Primary Positions in the Second Foot of Types C to E[649]

ResS F2 CtoE	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f2	S f2 all	653	206	10.6	0.4	8.7	0.6	-2.5
C S f2	C	225	105	20.6	1.5	26.3	2.9	1.7
C2 S f2	C2	0	2	0.0	0.0	8.0	5.9	1.4
Da S f2	Da	27	4	7.4	1.5	7.4	3.8	0.0
Da2 S f2	Da2	4	1	3.9	2.0	5.0	5.1	0.2
Dax S f2	Dax	33	9	26.0	5.1	24.3	9.0	-0.2
Db S f2	Db	2	0	1.4	1.0	0.0	0.0	-1.4
Db2 S f2	Db2	1	0	5.6	5.7	0.0	0.0	-1.0
Dbx S f2	Dbx	1	1	3.1	3.2	16.7	18.0	0.7
E S f2	E	33	11	7.7	1.4	11.8	3.8	1.0

Table 119: A-Verses with Resolved Primary Positions in the Second Foot in Types A to B[650]

ResS F2 A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f2 a	S f2	342	102	52.4	3.5	49.5	6.0	-0.4
3A S f2 a	3A	5	0	83.3	50.5	0.0	0.0	-1.7
3Ab S f2 a	3Ab	1	1	100.0	141.4	100.0	141.4	0.0
A1 S f2 a	A1	77	20	51.0	7.1	54.1	15.0	0.2
A2a S f2 a	A2a	26	2	92.9	25.3	50.0	43.3	-0.9
A2ab S f2 a	A2ab	4	3	100.0	70.7	100.0	81.6	0.0
A2b S f2 a	A2b	22	1	100.0	30.2	50.0	61.2	-0.7
A3 S f2 a	A3	23	7	100.0	29.5	77.8	39.2	-0.5
A3b S f2 a	A3b	6	1	100.0	57.7	100.0	141.4	0.0
B S f2 a	B	21	6	28.8	7.1	40.0	19.3	0.5
B2 S f2 a	B2	4	1	30.8	17.6	100.0	141.4	0.5

Table 120: A-Verses with Resolved Primary Positions in the Second Foot in Types C to E[651]

ResS F2 A-Verse	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
S f2 a	S f2	342	102	52.4	3.5	49.5	6.0	-0.4
C S f2 a	C	81	32	36.0	4.7	30.5	6.2	-0.7
C2 S f2 a	C2	0	2	0.0	0.0	8.0	5.9	1.4
Da S f2 a	Da	19	4	70.4	21.1	100.0	70.7	0.4
Da2 S f2 a	Da2	2	1	50.0	43.3	100.0	141.4	0.3
Dax S f2 a	Dax	32	9	97.0	24.1	100.0	47.1	0.1
Db S f2 a	Db	2	0	100.0	100.0	0.0	0.0	-1.0
Db2 S f2 a	Db2	1	0	100.0	141.4	0.0	0.0	-0.7
Dbx S f2 a	Dbx	1	1	100.0	141.4	100.0	141.4	0.0
E S f2 a	E	15	11	45.5	14.2	100.0	42.6	1.2

[649] See Figure 93 on page 60.

[650] See Figure 94 on page 60.

[651] See Figure 95 on page 60.

Table 121: A-Verses with Resolved Secondary Positions in the First Foot[652]

Res s F1	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
s f1	s f1 all	74	10	10.6	1.3	6.1	2.0	-1.9
A2a s f1	A2a	64	7	26.7	3.8	11.3	4.5	-2.6
A2ab s f1	A2ab	6	1	20.0	8.9	11.1	11.7	-0.6
E s f1	E	4	2	0.9	0.5	2.2	1.5	0.8
Res s F1 A-Verse								
s f1 a	Res s f1	68	7	91.9	15.4	70.0	34.5	-0.6
A2a s f1 a	A2a	60	4	100.0	18.3	57.1	35.8	-1.1
A2ab s f1 a	A2ab	6	1	100.0	57.7	100.0	141.4	0.0
E s f1 a	E	2	2	50.0	43.3	100.0	100.0	0.5

Table 122: Resolved Secondary Positions in the Second Foot[653]

Res s F2	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
s f2	s f2 all	74	36	2.7	0.3	3.9	0.7	1.6
3Ab s f2	3Ab	2	1	11.8	8.8	25.0	28.0	0.5
A2b s f2	A2b	0	1	0.0	0.0	3.1	3.2	1.0
B s f2	B	49	25	5.9	0.9	7.7	1.6	1.0
B2 s f2	B2	9	3	5.3	1.8	3.7	2.2	-0.6
C s f2	C	12	4	1.1	0.3	1.0	0.5	-0.2
Da s f2	Da	0	1	0.0	0.0	1.9	1.9	1.0
Db s f2	Db	2	0	1.4	1.0	0.0	0.0	-1.4
Db2 s f2	Db2	0	1	0.0	0.0	14.3	15.3	0.9

Table 123: A-Verses with Resolved Secondary Positions in the Second Foot[654]

Res s F2 A-V.	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
s f2 a	s f2	36	21	48.6	9.9	58.3	16.0	0.5
3Ab s f2 a	3Ab	2	1	100.0	100.0	100.0	141.4	0.0
B s f2 a	B	23	12	46.9	11.9	48.0	16.9	0.1
B2 s f2 a	B2	8	3	88.9	43.2	100.0	81.6	0.1
C s f2 a	C	2	3	16.7	12.7	75.0	57.3	1.0
Da s f2 a	Da	0	1	0.0	0.0	100.0	141.4	0.7
Db s f2 a	Db	1	0	50.0	61.2	0.0	0.0	-0.8
Db2 s f2 a	Db2	0	1	0.0	0.0	100.0	141.4	0.7

Table 124: Unresolved Primary Positions and Distribution to the A-Verse[655]

SusRes Sx F2	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx f2	Sx f2 all	89	40	8.5	0.9	13.2	2.2	2.0
A1 Sx f2	A1	5	16	0.2	0.1	1.6	0.4	3.2
A2a Sx f2	A2a	65	14	27.1	3.8	22.6	6.7	-0.6
A3 Sx f2	A3	6	5	2.1	0.9	3.6	1.6	0.8
Da Sx f2	Da	12	5	3.3	1.0	3.7	2.7	0.2
Dax Sx f2	Dax	1	0	0.8	0.8	0.0	0.0	-1.0
SusRes Sx F2 A-V.								
A1 Sx f2 a	A1	3	11	60.0	43.8	68.8	26.9	0.2
A2a Sx f2 a	A2a	26	5	40.0	9.3	35.7	18.6	-0.2
A3 Sx f2 a	A3	6	5	100.0	57.7	100.0	63.2	0.0
Da Sx f2 a	Da	3	2	25.0	16.1	40.0	33.5	0.4
Dax Sx f2 a	Dax	1	0	100.0	141.4	0.0	0.0	-0.7

[652] See Figure 96 on page 60.
[653] See Figure 97 on page 60.
[654] See Figure 98 on page 60.
[655] See Figure 99 on page 60.

Table 125: Unresolved Secondary Positions and Distribution to the A-Verse[656]

SusRes sx F2	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
sx f2	sx f2 all	627	185	39.5	1.9	37.7	3.3	-0.5
C sx f2	C	482	157	44.1	2.4	39.3	3.7	-1.1
Da sx f2	Da	92	12	25.1	2.9	22.2	7.1	-0.4
Dax sx f2	Dax	53	16	41.7	6.8	43.2	12.9	0.1
SusRes sx F2 A-V.								
sx f2 a	sx f2	324	96	51.7	3.5	51.9	6.5	0.0
sx f2 a	C	210	69	43.6	3.6	43.9	6.3	0.1
C sx f2 a	Da	63	12	68.5	11.2	100.0	40.8	0.7
Da sx f2 a	Dax	51	15	96.2	18.9	93.8	33.7	-0.1

Table 126: Long Endings of the Second Syllable of the Unresolved Sequence on the Primary Position[657]

Endings Sx f2	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
Sx f2 long	Sx f2 all	87	38	98.9	14.9	97.4	22.2	-0.1
A1 Sx f2 long	A1 Sx f2	5	16	100.0	63.2	100.0	35.4	0.0
A2a Sx f2 long	A2a Sx f2	64	13	98.5	17.3	92.9	35.8	-0.1
A3 Sx f2 long	A3 Sx f2	6	4	100.0	57.7	80.0	53.7	-0.3
Da Sx f2 long	Da Sx f2	12	5	100.0	40.8	100.0	63.2	0.0

Table 127: Long Endings of the Second Syllable of the Unresolved Sequence on the Secondary Position[658]

Endings sx f1	Normalization	Beo	Rid	% Beo	Err.Beo	% Rid	Err.Rid	Sign.
sx f1 long	sx f1 all	5	0	100.0	63.2	0.0	0.0	-1.6
E sx f1 long	E sx f1	5	0	100.0	63.2	0.0	0.0	-1.6
Endings sx f2								
sx f2 long	sx f2 all	131	17	90.3	10.9	60.7	18.7	-1.4
Da sx f2 long	Da sx f2	84	7	91.3	13.8	58.3	27.7	-1.1
Dax sx f2 long	Dax sx f2	47	10	88.7	17.8	62.5	25.2	-0.8

[656] See Figure 100 on page 60.

[657] See Figure 101 on page 60.

[658] See Figure 102 on page 60.

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On 8 July, 1944 I was born in Bern. I visited the primary school in Ostermundigen from 1951 to 1955 and the secondary school in Bolligen from 1955 to 1960. In the same year, I continued school in the Städtisches Gymnasium Kirchenfeld in Bern and graduated in the fall of 1964 with the Matura Typus B. 1965/66 I spent a year in the United States. In 1966 I got married and started studies at the University of Zurich in Chinese (major), English linguistics (first subsidiary) and Japanese (second subsidiary. During semester breaks, my husband and I traveled in Turkey (1966), worked in Nigeria for the Red Cross (1968), and studied in Israel (1969). In the spring of 1970, our first son was born in Zurich. My husband's work caused us to move several times. In 1972, we lived in Geneva, where our second son was born. 1974 and 1975 we spent in the United States, in Pasadena, CA. and Los Alamos, N.M. After years of raising our sons and working in textile handicrafts, I began new studies at the University of Zurich in English and German language and literature. In 1995, I presented my Lizentiatsarbeit on Old English metrics and graduated in May 1996.

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